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## Revision of the genus *Clepsis* GUENÉE (Lepidoptera: Tortricidae). Part II

[With 93 text-figs.]

### Rewizja rodzaju *Clepsis* GUENÉE (Lepidoptera: Tortricidae). Część II \*

**Abstract.** The present paper constitutes the second part of the revision of the genus *Clepsis*. Two groups of species, viz., the group of *peritana* and the group of *staintoni* are discussed. Appendix contains the data on two species belonging in the groups treated in part one of this revision. Twenty two species are redescribed, 12 species and one subspecies are described as new and one specific name is sunk as synonym.

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#### Abbreviations

- BM — British Museum (Natural History), London  
PhANS — Philadelphia Academy of Natural Sciences  
UCB — University of California, Berkeley  
USNM — National Museum of Natural History, Smithsonian Institution, Washington  
ZMM — Zoological Museum of the Moscow University

#### The group of *peritana*

*Smicrotes* CLEMENS 1860, Proc. Acad. nat. Sci. Philad., (12): 355. Type species: *Smicrotes peritana* CLEMENS, 1860.

Forewing uniformly broad or weakly expanding terminally especially in male; costal fold present in majority of species; costa often producing outwards medially or apically by extending scales. Coloration brownish with darker

\* Praca wykonana w ramach problemu międzyresortowego MR. II. 3.

pattern, basal blotch usually absent. In some species the sexual dimorphism is strikingly large.

Male genitalia. Uncus club-shaped, rarely uniformly broad throughout. Socius absent or rudimentary; gnathos simple. Valva with rather distinct slender terminal portion; sacculus well sclerotized, broadest near middle, convex ventrally, usually without free termination. Aedeagus simple, tapering terminally with a tendency of fusion of the opening for the ductus ejaculatorius with dorsal groove. Cornuti slender or broadening beyond base. Labis delicate; vinculum slender.

Subgenital segment (fig. 5) with slender distal part of tergite and well developed, elliptic hairy ventral plates.

Female genitalia. Sterigma variably shaped, often with proximal prominences. Signum fully developed, partially reduced or absent. Often short, tongue shaped prominence of dorsal surface of sterigma situated just beyond ostium bursae present. Sclerite of antrum present, ductus bursae simple or swung, in some species cestum is developed.

Bionomy little known. Two or more generations yearly.

Distribution. Nearctic and Neotropical Regions.

Comments. The species of this group show usually minute differences in the male genitalia. They occur mainly in the shapes of the uncus and aedeagus, less frequently in labis and valva. The specific differences are often visible in aedeagus only in the dorsal sight. The species are usually easily distinguished by the female genitalia. Some parts of the female genitalia are a little variable, e. g. that of the ventral edge of the sterigma which is also easily deformable during preparation. The above mentioned specific characters are supported by the external habit. The external differences are, however, small and are to be found in the shape of the forewing and coloration. Two subgroups are distinguished. In first of them belong the species with normally developed ductus bursae. They are arranged according to the development of the signum and the shape of the aedeagus. The group two characterises with swung ductus bursae.

### Subgroup 1

Ductus bursae normally developed. Aedeagus normally developed or the opening for ductus ejaculatorius situated somewhat laterally, fused with dorsal groove of distal part of aedeagus. Males usually with well developed costal fold.

#### *Clepsis virescana virescana* CLEMENS

*Smicrotes virescana* CLEMENS, 1865, Proc. ent. Soc. Philad., 5: 140. Type-locality: not given originally. Lectotype (cf. POWELL, 1964: 233) in PhAS, unknown to me.

*Tortrix sesculana* ZELLER, 1875, Verh. zool.-bot. Ges. Wien, 25: 220. Type-locality: Maine, Texas. Lectotype (selected in BM), ♂ „Texas, BOLL. 4/75”, coll. BM.

*Lozolaenia glauvana* WALSINGHAM, 1879, Illustr. Lepidopt. Heterocera Br. Mus., 4: 13, pl. 63, fig. 6. Type-locality: Southern Oregon. Lectotype (selected in BM), ♂: „from Rogue R., Josephine Co. Oregon, 8. V.-VI. 1872, WLSM.” G. S. 5345 (BM); Coll. BM.

POWELL, 1964: 232.

Head and thorax pale brownish yellow mixed olive grey, often densely dark scaled. Forewing ca 7—8.5 mm in male, 6.5—9 mm in female. In male indistinctly broadening terminally with costa curved outwards to middle, somewhat convex in apical part due to extending scales, apex acute, fairly long; termen distinctly oblique, somewhat sinuate. Costal fold slender, reaching usually to 1/3 of costa, rarely to before middle. Ground colour paler than head or tan, more or less distinctly suffused or sprinkled brownish; costal fold more ochreous or red-brown, dark basally. Pattern indistinct, brown to grey-brown, or developed in form of median fascia (usually interrupted medially or preserved only in costal part of wing) and subapical blotch. Some concolorous transverse strigulae in terminal third of wing developed. Fringes paler than ground colour. Hindwing whitish to white-grey, often mixed brownish on peripheries; fringes whitish to creamy. Female more obscurely coloured than male. Forewing slender, costa more convex subapically, termen more strongly oblique. Transverse strigulation and suffusion stronger, more olive-grey; pattern, especially the subapical blotch, more distinct, brown-grey; hindwing greyer.

Variation. POWELL (1964: 233) treats *glauvana* as a more distinctly coloured form of this species and mentions that the colour forms intergrade. In the studied material dominates a pale coloured form. The females are darker and greyer. Transverse strigulation or reticulation occurs mainly in distal and dorsal parts of wing. Pattern shows a tendency to atrophy. Often only its costal parts are preserved. Some unicolorous specimens seen.

Male genitalia (figs. 1,2). Uncus long, club-shaped, rounded apically: socius vestigial; gnathos long. Valva broad proximally with rather long, slender terminal portion, sacculus large, broad, convex ventrally. Aedeagus fairly short, thick, strongly tapering terminally from beyond 1/3; coecum penis short; single strong cornutus in vesica.

Female genitalia (fig. 66). Sterigma short with deeply concave median portion and long lateral processes; antevaginal part well developed, broadening terminally; sclerite of antrum broad; ductus bursae broadening towards corpus bursae; signum large with distinct capitulum and minutely spined basal sclerites.

Bionomy. POWELL (1964:233) realised that this species has single generation yearly in the Pacific Northwest and probably two flights in coastal California. The larva is poliphagous on *Rosaceae*, with preference to *Rosa californica* and *Prunus*.

Distribution. Widely spread in Canada and U. S. A. (from southern British Columbia to northern California probably with exception of the southwest).

Comments. I have examined the types of *glauvana* and *sescuplana* and compared them with large material from USA and with the literature data of *virescana* the type of which is unknown to me. In the Mexican material

received from Prof. POWELL I have found several specimens which show some external differences to the northern population but their systematic value cannot be recognized on the available material.

*Clepsis virescana salebrosa* ssp. nov.

Head and thorax dark olive-grey, often indistinctly mixed brown. Forewing 7—8.5 mm similarly shaped as in the nominate subspecies, but postmedian portion of costa more concave, apex somewhat longer and termen more oblique. Ground colour olive grey mixed white-grey in distal third of wing where darker strigulation occurs. Ochreous or olive-brown strigulae or dots in basal and dorsal portions of wing in some specimens. Costal fold longer than in nominate subspecies, ochreous-red to ferruginous. Pattern much darker than the ground colour consisting of median fascia and subapical blotch. The former distinct in costal area and proximally, diffuse distally. Fringes whitish except for apex area where more ochreous or creamy, with median line or basal portions concolorous with the ground colour of wing. Hindwing whitish mixed cream apically, often with well developed greyish transverse strigulation or spots. Female hardly differing from the male in colouration and shape of wings.

Variation. Some specimens with indistinct median fascia. Proximal portion of it often mixed ochreous-olive, usually gently convex submedially. Rarely costal portion of fascia forming a distinct blotch and the remaining parts are completely atrophied.

Male genitalia (figs. 3, 4). Uncus broader, more rounded in distal half and sacculus somewhat larger than in the nominate subspecies. Aedeagus longer and slenderer distally, strongly tapering terminally from before middle, provided with elongate ventral termination. Two cornuti in vesica.

Female genitalia (figs. 67, 68) smaller than in *virescana virescana* with differently shaped proximal part of sterigma and broader bases of its lateral processes. Group of minute spines in membranous part of sterigma; signum much smaller with almost completely atrophied basal sclerites.

Bionomy. Moth in July and August.

Holotype, ♂: „Mex: Durango, 11 mi E. Revolcaderos, 7800', VIII—16—72, J. POWELL Collr.”; Coll. UCB. Paratypes: 19 ♂♂, 14 ♀♀ identically labelled as the holotype and (2 specimens) „Mexico: Veracruz, 19 km NW Ciudad Mendoza VII—11—74, J. POWELL, J. CHEMSAK” and „Mexico: Veracruz, Puerto del Aire, 9 km S Acultzingo, VII—10—74, J. POWELL, Elev. 2380 m”.

*Clepsis rasilis* sp. nov.

Head and thorax yellow-brown mixed ferruginous, flagellum of antenna more creamy; abdomen pale grey. Forewing in male 8—9 mm, delicately expanding terminally; costa uniformly curved outwards throughout; apex fairly long; termen oblique, somewhat sinuate submedially. Ground colour pale ferruginous

creamy with indistinct ferruginous suffusion in place of subapical blotch and some brown dots distributed mainly in terminal third of wing; larger spot at disc. Costal fold ferruginous, slender, reaching almost to middle of costa. Fringes paler than wing, somewhat greyer, mixed rust at tornus. Hindwing broad, dirty cream, densely spotted pale brownish grey; fringes whitish. Female darker, more grey in hue with forewing 9 mm.

Variation. Some males very pale, brownish yellow with rust-brown dots, without trace of pattern. In other specimens dots of distal part of wing arranged in two rows parallelly to termen or agglomerated near apex. Two males with grey suffusion, one female with distinct subapical blotch.

Male genitalia (figs. 6, 7) as in preceding species but uncus shorter, broader terminally, valva shorter, with small distal portion, sacculus distinctly convex in middle of ventral edge. Aedeagus much broader, with strong coecum penis and distinct emarginations of lateral borders of distal part terminating in small ventral tip. A pair of rather short cornuti in vesica.

Female genitalia (fig. 69). Sterigma short, rounded distally, weakly sclerotized ventrally, with proximal part narrowing towards antrum. Distal part of ductus bursae strongly tapering towards antrum sclerite.

Holotype, ♂: „Mex: Las Rusias, 12 mi. E La Ciudad D[uran]go, 9200', VII—14—18—72; J. POWELL, D. VEIRS & D. C. MACNEILL, bl.[ack] white lights”; Coll. UCB. Paratypes, 20 ♂♂, 3 ♀♀ labelled identically as the holotype, 1 ♂ „Mex: Durango, 8 mi. W La Ciudad, 8700', VIII—17—72, MACNEILL & POWELL” and 1 ♂, „Mex: Dgo, El Salto 10 mi. W, 8800', VIII—4—64; J. A. CHEMSAK & J. POWELL, Black & White lights”.

### *Clepsis enervis* sp. nov.

Labial palpus ca 2, glossy black-brown, remaining parts of head and thorax rather concolorous, abdomen more grey. Forewing 8 mm, slender, rather uniformly broad throughout; costa curved outwards in basal third where slender costal fold is present, delicately concave postmedially; apex somewhat produced costad, fairly long; termen strongly oblique, hardly concave near middle. Ground colour dark, purple-brown, darker strigulated in distal third; pattern ill-defined consisting of diffuse dark brown median fascia and indistinct, rather concolorous subapical blotch. Fringes brown-grey. Hindwing dark grey, with elongate apical portion; fringes greyish with weak basal line.

Variation. Paratype paler than the holotype, more brownish in coloration, with ferruginous brown pattern.

Male genitalia (figs. 8, 9) as in *virescana* but distal portion of uncus shorter and broader, gnathos much stronger and aedeagus a little shorter.

Holotype, ♂: „Mex: Nuevo Leon, Cerro Potosi, 11.500', IX—25—75; J. POWELL collector”; coll. UCB. One identically labelled paratype.

Comments. The female is unknown. This species is easily distinguished due to narrow forewing and glossy coloration.

*Clepsis pelospila* (MEYRICK), comb. nov.

*Tortrix pelospila* MEYRICK, 1932, Exot. Microlepid., 4: 255. Type-locality: Mexico City  
The lectotype (designated by CLARKE, 1958: 251): „Mexico, Mexico City, 6·20”, G. S. 7845  
[BM]; Coll. BM.

Head dirty cream, labial palpus brownish laterally. Forewing 9 mm, hardly expanding terminally; costa curved in basal third, hardly concave subapically; apex short; termen oblique, sinuate. Costal fold slender, reaching to median fascia. Ground colour cream sprinkled dark brown. Costal fold and pattern brown, subapical blotch darker proximally. Row of spots or suffusions among veins in distal third of wing. Fringes concolorous with ground colour, darker in middle part of termen. Hindwing cream, suffused brownish in apical area; fringes white-creamy.

Male genitalia (figs. 10, 11): uncus strongly broadening terminally; aedeagus rather slender, tapering distally; two cornuti in vesica.

Comments. This species is probably closely related to the preceding ones. Unfortunately the female is unknown and the aedeagus is not checked in the dorsal position.

*Clepsis finitima* sp. nov.

Head ferruginous, terminal joint of labial palpus whitish; thorax ferruginous brown; abdomen dark grey. Forewing 6 mm, not expanding terminally; costa curved outwards in basal third, hardly concave subapically; apex very short; termen weakly oblique and convex. Ground colour pale ferruginous, pattern much darker. Basal area of wing suffused, limited by indistinct, arched outwards line; proximal edge of median fascia straight extending from 1/3 of costa, distal edge diffuse in dorsal area of wing where the fascia is strongly broadening; subapical blotch with straight proximal edge, reaching apex. Internal portions of pattern mixed greyish, ferruginous towards anterior pale bordered edges. Fringes much paler than ground colour, more creamy. Hindwing brownish with paler fringes. Male with distinctly convex basal part of forewing costa. Costal fold reaching to median fascia.

Male genitalia (figs. 12, 13) similar to those in *powelli* but with slenderer uncus and longer terminal prominence of aedeagus.

Female genitalia (fig. 70): sterigma rather short with proportionally large antevaginal part, membranous proximally; ductus bursae slender; signum without capitulum.

Holotype, ♀: „Cordoba, Mex. Vera Cruz, VI—29—1966; J. S. BUCKETT, M. R. & C. GARDINER Coll.; coll. UCB”. Paratypes: 1♀ identically labelled as the holotype, 3♂♂ and 1♀ with labels „Mex: Tamaulipas 12 mi SW Cd Victoria, 4000’, IX—18—76; J. CHEMSAK & J. POWELL at light”, 3♂♂ and 2♀♀ labelled „Mex: Novo Leon, 18 mi W Linares, IX—12—76, black light”, 1♀ „Mex: Veracruz, Rio Metlec, Fortin de las Flores, X—3—1975, J. POWELL and 4♂♂ „Mex:

Veracruz, Fortin de las Flores, X—2—75 at black light; J. POWELL & J. CHEMSAK".

Comments. This species is much smaller than all preceding ones, characteristic by distinctly convex costa of forewing and a vivid rust coloration of the forewing. The shape of the median fascia is probably somewhat variable and the subapical blotch shows a tendency to reduction.

*Clepsis powelli* sp. nov.

Head pale ferruginous brown, thorax darker. Forewing 6—5.6 mm, not expanding terminally. In male the wing broadest submedially; costa curved outwards to middle then gently concave, produced (extending scales) in apical portion; apex very short; termen weakly oblique, hardly convex; costal fold slender reaching to beyond middle of costa. Ground colour brownish (mixture of creamy-grey and brown scales) delicately sprinkled brown, costal fold strigulated. Pattern vivid brown, darker in proximal parts of particular elements, diffuse distally. Proximal edge of median fascia straight or slightly convex medially extending from 1/3 of costa, pale edged; subapical blotch diffuse, limited proximally by an arched, pale edged line extending from mid-costa to end of vein  $m_3$ . Often all that part of wing suffused or dark strigulate. Fringes dirty ochreous-creamy or pale brownish. Hindwing grey-brown, fringes paler. Female forewing almost uniformly broad throughout with costa strongly convex basally, sinuate subapically; termen hardly concave beyond apex. Colouration essentially as in male but costal parts of pattern much darker and proximal edges less distinct delicately pale edged.

Variation. Ground colour often distinctly strigulated rust-brown, especially in distal part of wing. Pattern sometimes mixed grey or black in costal portion of wing; median fascia showing a tendency to atrophy in median and (or) dorsal portions. In two specimens only subapical blotch preserved.

Male genitalia (figs. 14—16). Uncus slender, strongly broadening in terminal third; termination of gnathos long; labis small. Valva subtriangular; sacculus slender. Aedeagus short, strongly tapering from fallobase with left edge emarginate; 1—3 cornuti present.

Female genitalia (fig. 71). Sterigma subsquare, membranous in middle distally, with well developed, rounded apically proximal corners and short antevaginal plate; sclerite of antrum very short; ductus bursae short, tapering distally; no signum present.

Holotype, ♂: „Mexico: Veracruz, Fortin de las Flores VII—8—74, Elev. 1010 m; Collected by J. A. POWELL”; Coll. UCB. Paratypes 6 ♂♂, 8 ♀♀ identically labelled as the holotype, 1 ♂, 1 ♀ labelled „Mexico: Veracruz, 7 km NW Bandera, VII—13—74 at light, J. POWELL, J. CHEMSAK, 1680 m elevation”, 5 ♂♂: „Cordoba, Mex. Vera Cruz. VII—6—1966 (also 20 and 25 VII. 1966); J. S. BUCKETT, M. R. & R. C. GARDINER Coll.”.

*Clepsis laxa* sp. nov.

Head pale ochreous-creamy, labial palpus ca 1·5; thorax slightly darker than head. Forewing 7—8 mm, weakly expanding terminally; costa somewhat curved outwards; apex short; termen wakly oblique, tolerably straight; costal fold slender reaching to before middle of costa. Ground colour pearl-creamy, more or less suffused pale ochreous, spotted or strigulated ochreous-brown especially along wing edges and in terminal third of wing. Pattern ochreous-brown, dark brown at costa consisting of median fascia (diffuse in dorsal half of wing) and subapical blotch. Fringes concolourous with ground colour, mixed ochreous at apex, interrupted by two to three yellow-brown bars postapically. Hindwing dirty cream with whiter fringes. In female forewing somewhat slenderer and costa more straight from beyond middle; termen seemingly more oblique than in male.

Variation. One specimen with indistinctly edged pattern; in some paratypes median fascia yellowish brown, slender, almost completely developed; subapical blotch accompanied by a slender terminal marking.

Male genitalia (figs. 17, 18). Distal half of uncus large, rounded apically. Valva as in *virescana* but with shorter distal part. Aedeagus slender, long, with thin distal half and slender coecum penis; single broadening submedially cornutus in vesica.

Female genitalia (fig. 72). Sterigma short, convex distally, with membranous median portion of dorsal wall and short proximal corners (deformable during preparation); sclerite of antrum small; ductus bursae slender; signum fairly large with small capitulum and long, minutely dentate basal sclerites.

Holotype, ♂: „Mex: 15 mi E Cuauhtemoc, Chih. [uahua], VII—11—64 J. CHEMSAK, J. POWELL, white lites; asoc. *Quercus emoryi*”; coll. UCB. Paratypes: 4 ♂♂, 3 ♀♀ labelled identically as the holotype, 6 ♂♂ with labels „Pedernales, 7 mi E 7400’, Chin., Mex. VII—12—64; J. POWELL Collector (or „J. A. CHEMSAK collector”, „J. CHEMSAK, J. POWELL, white lites”), 2 ♂♂: Mex: Chih. Hidalgo, Del Parral, 25 mi W 6800’, VII—15—64; J. CHEMSAK & J. POWELL. Black & white lites” and 2 ♂♂: „Durango, 21 mi W. 7800’ DGo. Mex. VII—64; J. POWELL Collector”.

Besides the above described specimens there is also an almost monochrome, olive-grey form. There are slight differences between them in the female genitalia (the signum is somewhat larger in the grey form) however, there is no difference in the males.

*Clepsis smicrotes* (WALSINGHAM), comb. nov.

*Tortrix smicrotes* WALSINGHAM, 1914, Biol. Cent.-am. Lepid. Heterocera, 4: 288. Type-locality: Amula, Mexico. Holotype, ♀: „Amula, 6000 ft. Guerrero, Mexico, VIII. 18 (H. H. SMITH CHMPN. SLVN. 66516”, G. S. 5665 (BM); coll. BM.

Male. Head creamy, thorax slightly darker, more yellow. Forewing 6.5—8 mm, somewhat expanding terminally; costa curved outwards to middle, then rather straight; apex very short, rounded; termen indistinctly oblique, hardly concave postapically, then convexely bent towards tornus. Costal fold to middle of costa, broadest postbasally. Ground colour pale ochreous cream somewhat suffused brown-yellow or ochreous, transversely strigulated yellowish brown, with some glossy scales. Pattern darker than strigulation consisting of basal blotch, median fascia the proximal edge of which extends from beyond 1/3 costa and weak subapical blotch. The latter connecting with median fascia near disc, or completely atrophied. One or two curved outwards transverse lines limiting apex area and in two specimens indistinct terminal marking. Weak refractive suffusion in median portion of pattern present. Fringes concolorous with ground colour, hindwing creamy, browner anally, spotted pale brownish; fringes white-cream. Female characterises with slenderer forewing, less convex median portion of costa and shorter termen. Basal blotch weak, diffuse distally, proximal edge of median fascia concave medially, subterminal blotch better developed.

Variation. Ground colour of forewing varies from described above to ochreous yellow. Proximal edges of pattern more or less dark, rather concolorous with transverse strigulation which may occur also on the basal blotch and is usually well developed on subapical blotch.

Male genitalia (figs. 19—21). Uncus with large, broadened in distal part; distal portion of valva fairly long; sacculus large. Aedeagus proportionately short, strongly tapering from middle terminally, producing ventrally into long, acute tip; two cornuti in vesica.

Female genitalia (fig. 73). Sterigma fairly large with well developed proximal prominences; ductus bursae short; signum delicate with well developed capitulum and basal sclerite.

Bionomics. Moth collected in VI and VIII.

Distribution. Apart from the type locality several specimens collected in S. Altixco, Puebla (Mexico).

### *Clepsis penetralis* sp. nov.

Head and thorax brownish yellow. Forewing 6—7 mm, very similar to that in *C. smicrotes* but slightly slenderer. Costal fold absent; termen oblique, indistinctly sinuate. Ground colour yellowish mixed slightly ochreous, spotted and strigulated transversely with brownish yellow. Costa rust-brown basally; median fascia from 1/3 of costa, brownish, mixed grey internally, rather uniformly broad throughout, more oblique than in mentioned species. Subapical blotch brown, followed by indistinct ochreous lines extending towards termen postmedially. Fringes paler than ground colour. Hindwing whitish grey with paler fringes. Female with forewing slightly slenderer than in male, brownish yellow, without strigulation. Median fascia broadening beyond costal third of wing, dark brown

subapical blotch black-grey; indistinct oblique ferruginous lines in terminal portion of wing. Otherwise as for the male.

Male genitalia (figs. 22, 23). Uncus fairly long, gradually broadening towards middle, broad terminally. Valva with broad terminal part; sacculus slender, broadening medially. Aedeagus tapering terminally from the middle with very slender coecum penis; two thin cornuti in vesica.

Female genitalia (fig. 74). Sterigma very short, membranous in middle of distal edge, with distinct proximal processes and very short lamella antevaginalis. Sclerite of antrum short, broad, ductus bursae slender; signum absent.

Holotype, ♂: „Logan, Utah, light trap VII—1—60, G. KNOWLTON Collr.” Coll. UCB. Paratypes, 3 ♂♂: „Hooper, Utah, G. F. KNOWLTON, F. L. FRONK, mosquito trap”, dated 7. VIII. 57, 9. VII. 57, 21. VII. 56 and 3. IX. 56 and 1 ♀: „Utah: Tooele Co., 5 mi W Clover, VIII—13—73, S. SHERLIF & J. POWELL”.

Comments. Externally this species is very similar to *C. smierotes* and differs mainly in lack of the costal fold in the male. The differences in the genitalia are distinct.

### *Clepsis devexa* (MEYRICK), comb. nov.

*Tortrix devexa* MEYRICK, 1926, Exot. Microlepid., 3: 248. Type-locality: Mt. Tolima (Colombia). Holotype, ♂: „Colombia, Mt. Tolima, 12,500 ft., X. 20”, G. S. 9376 [CLARKE]; coll. BM.

Head damaged, probably concolorous with thorax which is ochreous brown. Forewing ca 8 mm, not expanding terminally; costa curved to middle, hardly concave before apex; termen weakly oblique, rather straight. Costal fold ill-defined. Ground colour creamy ochreous densely strigulated ochreous brownish. Pattern grey-brown consisting of rather slender median fascia interrupted submedially and well developed subapical blotch. Fringes somewhat paler than ground colour; basal line weak. Hindwing creamy mixed pale ochreous apically, indistinctly strigulate; fringes white-cream.

Male genitalia (figs. 24, 25). Uncus broadening in distal third; edeagus membranous on the right side.

Comments. Female unknown. Systematic position uncertain.

### *Clepsis metallela* (WALSINGHAM), comb. nov.

*Tortrix metallela* WALSINGHAM, 1914, Biol. cent.-am. Lepid. Heterocera, 4: 282. Type-locality: Amula (Mexico). Holotype, ♂: „Amula, 6000 ft., Guerrero, Mexico, VIII 18 (H.H. SMITH), CHMPN. SLVN. 66521”, G. S. 7950 [BM]; coll. BM.

Head ochreous to orange-rust; thorax a little darker. Forewing 6—7 mm, broader in male than in female; costa curved to middle then tolerably straight termen weakly oblique, almost straight to middle; costal fold variable, usually reaching beyond middle of costa. Ground colour pale orange-creamy, more or less suffused ochreous. Diffuse ochreous strigulation or spots all over the wing,

pearl spots and lines mainly in median portion of wing and subterminally. Pattern rust-ochreous in female consisting of diffuse median fascia and weak subapical blotch, almost completely atrophied in male. Fringes creamy mixed ferruginous. Hindwing pale brownish cream; fringes more creamy.

Variation. Some specimens brownish grey in hue; occasionally the males with indistinct ochreous-brown pattern consisting of median fascia and subapical blotch. Length of costal fold variable.

Male genitalia (figs. 26, 27). Uncus very broad, almost not narrowing basally, weakly rounded apically. Valva with fairly broad distal portion; sacculus rather broad medially. Aedeagus with long coecum penis and with lateral opening for ductus ejaculatorius, strongly tapering terminally from end of phallobase, slightly curved laterally; two cornuti in vesica.

Female genitalia (fig. 75). Sterigma short, convex distally, provided with small proximal corners and very short antevaginal plate. Dorsal wall cup-shaped, additionally concave and scobinate at ostium; antrum sclerite small; ductus bursae long, slender, provided with long cestum; signum slender with ill-defined basal sclerite.

Bionomics. The moth occurs probably in three generations yearly as it has been collected from end of June till beginning of October.

Distribution. Known from Mexico: Zacatecas (Fresnillo), Puebla (Atlixco), Durango (Durango), Nayarit (near Tepic), Chihuahua (Parrita, Hidalgo del Parral) and the type locality.

Comments. This species resembles externally *C. smicrotes*, *C. laxa* and *C. penetralis* but is easily distinguished by pearl shining dots on the forewing. In this and the following species an interesting process of evolution of the aedeagus may be observed. Its distal portion forms a groove reaching the opening for the ductus ejaculatorius and is completely membranous dorsally.

### *Clepsis opinabilis* sp. nov.

Head brownish grey, labial palpus ca 2; thorax concolorous with head. Forewing 7 mm, weakly expanding terminally in male, rather uniformly broad throughout in female; costa slightly concave subapically, apex fairly long, termen oblique, sinuate; costal fold long. Ground colour brownish grey, ash-grey towards termen and costa; pattern dark brown. Median fascia diffuse distally, broadening towards dorsum, with proximal edge indistinctly convex medially, delicately pale edged; subapical blotch distinct, some weak strigulae near apex. Fringes concolorous with ground colour basally, whitish beyond middle. Hindwing whitish grey, pale brownish grey strigulated. Female darker than male with better developed transverse strigulation.

Male genitalia (figs. 28—30). Uncus rather short, gradually broadening towards the tip. Valva subtriangular, sacculus slender. Aedeagus small with short left side and enlarged right side of the tapering distal portion. Opening for ductus ejaculatorius connected with distal groove.

Female genitalia (fig. 76). Sterigma small, convex distally with short antevaginal portion and pointed proximal corners. Ductus bursae long, slender; sclerite of antrum fairly large; signum reduced to large capitulum and small basal sclerite. Its main part is very short, thorn-shaped.

Holotype, ♂: „Mexico: Veracruz, 12 km SE Las Vigas, VII—14, 15—74; Collected by J. A. POWELL”, G. S. 6023; Coll. UCB. Paratypes, 4 ♂♂, 2 ♀♀ identically labelled as the holotype; on two labels additionally „Elev. 2380 m.”

Comments. The new species is similar to *C. virescana salebrosa* but differs by less oblique termen of the forewing and in the genitalia.

#### Subgroup 2

To this subgroup belong the species characterised by swung ductus bursae. Cestum more or less distinctly sclerotised, twisted. The tendency to membranisation of the dorsal portion of the aedeagus is stronger than in the members of the subgroup 1. The males usually without costal fold. Costa often concave or incised (mainly in females) postmedially. In *abscisana* and its allied distinct sexual dimorphism realised.

#### *Clepsis fatiloqua* sp. nov.

Head and thorax brownish grey, labial palpus paler, mixed ochreous. Forewing 7 mm, somewhat expanding terminally; costa weakly curved in basal portion, convex medially, then deeply concave to before apex, the latter produced costally, rather short, pointed; termen oblique, slightly sinuate beyond apex. Ground colour grey, indistinctly mixed brownish, delicately strigulated brown. Median fascia in form of a gently concave line representing its proximal edge, and indistinct brownish costal suffusion. Subapical blotch situated in a concavity of costa, brown in colour. Delicate strigulation terminally. Fringes whitish grey. Hindwing whitish, suffused brown on peripheries; fringes brownish white. Male with broad forewing characterised by very slender costal fold reaching to beyond 1/3 of costa. Median fascia in form of indistinct line representing its proximal edge. Subapical blotch ill-defined.

Male genitalia (figs. 31, 32): uncus slender, broadening in distal half; aedeagus proportionally long, strongly tapering apically.

Female genitalia (fig. 77): sterigma small with lateral parts broad basally, angulate proximally; median portion cup-shaped; lamella antevaginalis reduced; antrum sclerite weak; ductus bursae short; signum delicate.

Holotype, ♀: „Mexico: Veracruz, 12 km SE Las Vigas, VII—14, 15—74, collected by J. A. POWELL, Elev. 2070 m”; Coll. UCB. Paratypes: 2 ♀♀ identically labelled as the holotype, and 1 ♂ with label „Mexico: Puebla 6 mi N Chapulco, 7000' X—4—1975; J. POWELL, J. EICHLIN a T. FRIEDLANDER”.

Comments. Externally this species resembles *C. abscisana* but is much greyer. It differs also in having very pale hindwing, and in the genitalia. The male remains unknown.

***Clepsis lutosulana* (ZELLER), comb. nov.**

*Tortrix (Cacoecia) lutosulana* ZELLER, 1877, Trudy russk. ènt. Obshch., 13: 98, fig. 33.  
Type-locality: near Ubaque (?Colombia). Lectotype (here designated), ♂: „*Lutosulana* Z.; E. M. 98 f. 33, Ubaque”, G. S. 8585 [BM]; coll. BM.

Labial palpus creamy; remaining parts of head brownish cream. Forewing 5 mm, hardly expanding terminally; costa gently curved in basal half; termen rather straight, somewhat oblique. Ground colour creamy with indistinct brown-grey hue and similar basal and dorsal suffusions; brown-grey spots along costa. Pattern brown-grey with olive hue, sprinkled and spotted dark brown-grey along wing edges. Median fascia slender, concave before middle of proximal edge; subapical blotch small, connected by ochreous line with end of termen; brown-grey dot at disc; weak, more brownish terminal line. Fringes creamy somewhat mixed ochreous. Hindwing brownish cream with much paler fringes marked with brownish-grey median line. Female paralectotype (G. S. 8887 [BM]) with darker, mixed brownish ground colour of forewing, brown strigulation and darker than in male suffusions especially in basal area of wing. Pattern brown, median fascia pale edged proximally. Hindwing brownish.

Variation. Paler and darker specimens with more brownish or creamy-brown pattern (type series).

Male genitalia (figs. 33, 34). Uncus strongly broadening terminally; valva weakly tapering terminally, with large distal part. Aedeagus fairly long, strongly tapering terminally.

Female genitalia (fig. 78): sterigma slender with rounded proximal corners; ductus bursae slender with 17 twists, the proximal part of cestum large, partially entering corpus bursae. Signum absent.

Comments. The species was collected by the end of March. It was originally compared with *memoriana* and *miserulana*, of which only the latter belongs in the genus *Clepsis*.

***Clepsis spirana* sp. nov.**

Head pale brownish cream, brown scaled; thorax brownish. Forewing in male 4.5 mm, uniformly broad throughout; costa indistinctly convex from beyond basal curvature; termen oblique, hardly convex. Ground colour cream densely sprinkled dark brown; pattern dark brown. Basal blotch represented by a subdorsal marking; proximal edge of median fascia from 1/3 of costa, concave before middle, pale edged; costal third of median fascia much slenderer than distal half, submedian part atrophied; small, elongate spot beyond beginning of

broad part of fascia; subapical blotch accompanied by two lines, one directed towards tornus, another, shorter, subapically. Fringes concolorous with ground colour, browner at apex. Hindwing brownish grey with similarly coloured fringes. Female forewing 5.5 mm, darker than in male, with pattern more distinct; subapical blotch broad, producing toward tornus, pale edged proximally; median fascia completely developed, gradually broadening dorsally.

Male genitalia (figs. 35—37). Uncus rather short, strongly broadening postmedially; gnathos delicate; valva subtriangular; sacculus slender. Aedeagus broad medially, strongly tapering towards end, producing ventrally; coecum penis long, slender. Two broad cornuti realised.

Female genitalia (fig. 79). Sterigma very short, weakly sclerotized distally, with weak latero-proximal prominences and indistinct lamella antevaginalis; antrum sclerite very small; ductus bursae long; signum small.

Holotype, ♂: „Mex: Veracruz, Fortin de las Flores, VII—7 to 12—74, Elev. 1010 m; J. A. CHEMSAK, J. POWELL at lights”; Coll. UCB. Paratypes, 3 ♂♂, 2 ♀♀ identically labelled as the holotype but two of them dated 8. VII. 74 and one VII. 30. 1 ♂: „Cordoba, Mex. Vera Cruz, VII—20—1966; J. S. BUCKETT, M. R. & R. C. GARDNER Coll.” and 1 ♂: „Mex: Vera Cruz, Rio Metlec, Fortin de las Flores X—2—1975; J. A. POWELL & J. CHEMSAK collectors”.

Comments. The uncus resembling that in the preceding species from which *spirana* differs in much shorter, twisted aedeagus, shorter sterigma provided with sharp proximal corners well developed signum and presence of large subdorsal blotch near base of the forewing.

### *Clepsis peritana* (CLEMENS)

*Smicrotes peritana* CLEMENS, 1860, Proc. Acad. nat. Sci. Philad.: 356. Type-locality: no given originally. Lectotype (cf. POWELL, 1964: 288) in coll. PhANS.

POWELL, 1964: 226 (*Clepsis*).

Head pale brownish cream to brownish; thorax usually darker. Forewing in male ca 5 — ca 7 mm, ca 5.5—7.5 in female, rather uniformly broad throughout; termen oblique, tolerably straight. Ground colour tan, more or less dark, sometimes pale brownish cream delicately strigulated brownish especially in terminal third of wing. Pattern yellowish brown to brown with various shades (often grey or olive). Median fascia from before middle of costa, gradually broadening terminally, with proximal edge almost straight; subapical blotch distinct, not reaching apex. Fringes paler than ground colour, often with well developed median line. Hindwing pale brownish grey; fringes paler.

Variation distinct. In some specimens remainders of basal blotch in form of a subdorsal suffusion developed. Median fascia showing a tendency to atrophy in median and dorsal areas of wing. Almost unicolorous specimens noticed.

Male genitalia (figs. 38, 39). Terminal third of uncus broadened, basal portion thin; distal part of valva slender. Aedeagus small, broadest at end of phallobase, distinctly tapering terminally, curved laterally; single cornutus in vesica.

Female genitalia (fig. 80). Sterigma very short, similar to that in the preceding species. Ductus bursae much shorter; signum absent.

Bionomy. POWELL (1964: 230) discussed in detail the bionomy of this species. It occurs in a number of generations yearly; in San Diego it is on wing all round the year (probably six or seven generations), in the San Francisco Bay area there are two main periods of its occurrence (from early April to end of June and from mid-August to end of October) but the moth was collected also in March, July, August and November. POWELL supposed thus that at least four generations may develop in central California. The hibernation takes place in stages of larva and pupa. Food plants are strawberry, lima bean, fuchsia and probably other plants as the larvae were found feeding on fallen fruit of orange and leaves of various ornamental plants. The larvae feed both on the living plants and their dead parts probably with a preference to the latter.

Distribution: North America from Nova Scotia to British Columbia in Canada to Southern California. It only has not been noticed in deserts and the boreal zone.

### *Clepsis inconclusana* (WALKER), comb. nov.

*Dichelia inconclusana* WALKER, 1863, List Specimens lepid. Insects Coll. Br. Mus., 28: 318.  
Type-locality: North America. Lectotype (here designated), ♂: „N. America, CARTER 1882—65”, abdomen missing; coll. BM.

Externally very similar to *peritana*. Forewing in lectotype 5 mm; ground colour pale ochreous cream scarcely strigulated and spotted ochreous brownish. Basal blotch in form of subdorsal ochreous suffusion; median fascia strongly broadening at dorsum with gently concave proximal edge, more brown than basal marking, accompanied with brown spot connected with tornal part by a delicate line. Subapical blotch weak, concolorous with median fascia, spotted brown costally, edged so proximally. Proximal edge curved, extending in a line towards tornus. Fringes concolorous with ground colour.

Comments. The type lack the abdomen thus the genitalia are unknown. Also the type locality does not help much. It is thus necessary to compare the specimens from U.S.A. with the type. In the examined material from Mexico I have found several concolorous specimens which may be conspecific with *inconclusana* and which differ in the genitalia from *peritana*. The descriptions are given below. The discussed specimens have been collected in the states of Vera Cruz, Chapas and Sinaloa.

Male genitalia (figs. 40, 41) as in preceding species but smaller. Uncus delicate, slender; aedeagus less curved laterally.

Female genitalia (fig. 81) with sterigma shorter and ductus bursae longer and more densely twisted as in *peritana*.

*Clepsis homophyla* (MEYRICK), comb. nov.

*Tortrix homophyla* MEYRICK, 1917, Trans. ent. Soc. London, 1917: 8. Type-locality: La Crumbre, Colombia. Holotype, ♂: „La Crumbre, Colombia, 5600 ft., 5—15”. G. S. 6337 [Clarke]; coll. BM.

Head and thorax cream mixed brown-grey, labial palpus ochreous brownish. Forewing 5.5 mm, rather uniformly broad throughout; costa delicately curved outwards throughout, more strongly so at base: termen distinctly oblique to end of vein  $m_2$ , then weakly so, sinuate before middle. Ground colour grey-cream with indistinct pinkish hue, densely strigulated brownish grey. Pattern greyish brown, partially brown at edges. Fringes concolorous with ground colour. Hindwing white-cream mixed pinkish ochreous apically, indistinctly strigulated in apex area; fringes paler.

Male genitalia (figs. 42, 43): uncus slender, long, distinctly broadening terminally; valva elongate, sacculus rather slender. Aedeagus with long coecum and broad median part, strongly tapering apically in distal portion.

Comments. This species is distinct by coloration. The female is unknown. Second specimen was also collected (26. I.) in Colombia near Popayean in Cauca at the altitude of 1800 m (coll. USNM).

*Clepsis capnosticha* (MEYRICK), comb. nov.

*Tortrix capnosticha* MEYRICK, 1917, Trans. ent. Soc. London, 1917: 8. Type-locality: Lima (Peru). Lectotype (designated by CLARKE, 1968: 232), ♂: „Lima, 500 ft., Peru, PARISH 8—14”, G. S. 6336 [Clarke]; coll. BM.

Head ochreous brownish (labial palpus missing), thorax darker. Forewing 6 mm; costal fold very thin reaching to median fascia; costa curved to middle then straight; termen fairly oblique, tolerably straight. Ground colour brownish cream with weak ochreous admixture and brownish suffusions. Basal blotch diffuse, pale brown, darkest dorsally; median fascia from before middle of costa, rather diffuse, with rather straight proximal edge, grey-brown, darker costally. Subapical blotch more grey, darkened proximally. Subterminal pattern weak; fringes paler than ground colour. Hindwing cream mixed pale ochreous brownish in terminal half where pale brownish grey strigulation present; fringes pale cream, darker at apex, with indistinct median line.

Variation. Ground colour more or less brown-grey, pattern somewhat darker. In the type series (4 specimens) there is a female with forewing rather uniformly broad throughout and with termen more oblique than in male. Pattern ill-defined, terminal third of wing suffused brownish.

Male genitalia (figs. 44, 45). Uncus strongly broadening terminally, rounded apically; valva elongate with rather slender sacculus. Labis slender with small elliptic area of minute spines. Aedeagus slender, bent.

Comments. The female is not examined genitalically. This species is close to *vitiana* and probably to *miserulana*, the male of which is, however, unknown. In this infragroup characterised by the shape of the labis belong also *C. homophyla*.

***Clepsis miserulana* (ZELLER), comb. nov.**

*Tortrix miserulana* ZELLER, 1877, Trudy russk. ènt. Obshch., 13: 101, fig. 34. Type-locality: Fusagasuga (Colombia). Holotype, ♀: „*Tortr. ?C. miserulana* Z., Fusagasuga”, G. S. 8584 [BM]; coll. BM.

Head and thorax yellowish brown, palpus concolorous, larger than 1. Forewing 8 mm, weakly expanding terminally; costa bent in basal third, then weakly so; termen rather straight; costal fold absent. Ground colour yellowish brown, suffusions and strigulation brownish, pattern brown with indistinct olive hue. Median fascia ill-defined, reduced to a narrow marking representing its proximal edge extending from 1/3 of costa to base of vein  $cu_2$  and then along it to termen; small spot beyond fascia subcostally; subapical blotch paler, reaching apex; small brownish suffusion along cubital portion of median cell some strigulae subterminally. Fringes brownish cream. Hindwing pale brownish, more cream towards apex; fringes creamy.

Female genitalia (fig. 82): sterigma rounded distally, with well developed proximal corners; ductus bursae with about ten twists; signum typically developed.

***Clepsis vitiana* (ZELLER), comb. nov.**

*Tortrix (Lozotaenia) vitiana* ZELLER, 1877, Trudy russk. ènt. Obshch., 13: 103, fig. 36. Type-locality: Hato (Colombia). Holotype, ♂: „*Lozotaenia vitiana* Z. Hato”, G. S. 8642 [BM]; coll. BM.

Labial palpus over 1, ochreous cream, whitish cream above; front creamy; vertex suffused pale ochreous brown, thorax darker. Forewing 6 mm, not expanding terminally; costa curved outwards basally, straight beyond middle; apex rather broad; termen weakly oblique, somewhat convex. Ground colour pale ochreous cream suffused leaden-grey among pattern and basally, diffusely strigulated brownish ochreous. Costal fold brown, slender, reaching to median fascia. Pattern pale edged consisting of brown ochreous scaled basal blotch divided into two vertical markings situated dorso-medially, slender, brown-grey, darkened costally and dorsally median fascia and paler subapical blotch accompanied by a subtriangular vertical marking situated in middle of wing breadth. A row of ochreous brown dots subapically. Fringes paler than ground colour. Hindwing brownish with much paler and more cream fringes.

Male genitalia (figs. 46, 47): uncus slender with very broad, rounded apical half; valva elongate; sacculus slender; labis elongate, bent. Aedeagus strongly curved in distal half, thin terminally.

Female genitalia (fig. 83): with sterigma smaller than in preceding species, longer and thinner ductus bursae and flattened signum provided with short capitulum and completely reduced basal sclerites.

Comments. The female described above is most probably conspecific with the holotype and has been collected in Jurimaguas, Peru.

### *Clepsis truculenta* sp. nov.

Head ochreous cream laterally, brownish grey dorsally; thorax brown-grey. Forewing 9 mm, rather uniformly broad throughout; costa curved outwards to middle, sinuate before apex; apex rather long, sharp; termen weakly oblique, concave beyond apex. Wing almost monochrome brownish grey, pattern ill-defined, in form of a diffuse median fascia and an arched line extending from costa to distal part of termen, accompanied by some concolorous strigulae. Fringes concolorous with ground colour, median line darker. Hindwing cream, mixed brownish in anal area, tinged ochreous at apex; fringes white-creamy.

Male unknown.

Female genitalia (fig. 86). Sterigma rounded distally, without proximal prominence; lamella antevaginalis membranous; sclerite of antrum very weak; distal, simple portion of ductus bursae very short; signum well developed with weak basal sclerite.

Holotype, ♀: „Mex. Durango, 11 mi. E. Revolcaderos, 7800', VIII—16—72, J. POWELL Collr.”, G. S.: 6025; Coll. UCB.

Comments. This species resembles externally a female of *Archips rosanus* (L.). It is distinct by the genitalia and especially by rounded proximal portion of the sterigma.

### *Clepsis orycta* (WALSINGHAM), comb. nov.

*Tortrix orycta* WALSINGHAM, 1914, Biol. cent.-am. Lepid. Heterocera, 4: 293. Type-locality: Jalapa, Mexico. Holotype, ♀: „Jalapa, Vera Cruz, Mexico, TRUJILLO, GOWM. SALV. 18., WLSM. 65976”, G. S. 4725 [BM]; coll. BM.

Head and thorax brownish grey. Forewing 8 mm, uniformly broad throughout; costa curved basally, concave in distal portion; apex acute; termen oblique, situate to vein  $cu_1$ . Ground colour greyish; pattern darker, more olive brown, darker at edges where brown strigulation occurs. Basal blotch weak; median fascia with proximal edge distinct, convex medially, dark in costal third; subapical blotch weak, with proximal edge extending towards end of termen. Fringes concolorous with ground colour. Hindwing greyish in basal half, cream in distal portion, gradually paler towards apex where greyish strigulation present; fringes (damaged) dirty cream.

Female genitalia (fig. 85): sterigma with well developed antevaginal part and rounded proximal edge; ductus bursae proportionally short, densely twisted. Signum peculiar, consisting of minute capitulum and basal sclerite.

*Clepsis ecclisis* (WALSINGHAM), comb. nov.

*Tortrix ecclisis* WALSINGHAM, 1914, Biol. cent.-am. Lepid. Heterocera, 4: 293. Type-locality: Cerro Zunil (Guatemala). Holotype, ♀: „Cerro Zunil, 4000 ft. Guatemala, CHMPN. 18 GODM. SALV. 66568 WLSM.”, G. S. 5336 [BM]; coll. BM.

Labial palpus pale brownish grey, remaining parts of head and thorax darker. Forewing 9 mm, not expanding terminally, broadest in middle; costa curved distinctly to before middle, concave at 2/3; apex produced, sharp; termen deeply sinuate, convex at  $cu_2$ ; tuft of scales at costa just before concavity. Ground colour pale ochreous brownish, diffusely spotted brownish; pattern darker, paler internally, pale edged (median fascia white edged proximally); venation rather concolorous. Basal blotch consisting of several oblique dark markings; proximal edge of median fascia rather straight, distal edge strongly oblique to disc where black spot present, deeply concave in dorsal portion. Subapical blotch brown, elongate, situated at costal concavity; two curved outwards thin fascias from subapical blotch parallelly towards end of dorsum and tornus, third, short line limiting apex area. Fringes olive-brown-grey to middle, rather cream distally (damaged). Hindwing pale brown-grey, fringes much paler.

Female genitalia (fig. 87): distal edge of antevaginal part of sterigma well sclerotized; proximal corners strong. Ductus bursae proportionally short with 8 twists and rather weakly sclerotized cestum; signum strong with large knife-shaped part and long basal sclerites; capitulum atrophied.

Comments. The male lacks the abdomen. It differs externally from the female having less concave costa and less oblique, weakly sinuate termen. The original description is based on the holotype exclusively.

*Clepsis crinis* sp. nov.

Head olive cream hardly mixed ochreous, thorax somewhat darker. Forewing in holotype 8 mm, indistinctly expanding terminally; costa curved to middle, weakly sinuate postmedially; apex elongate, sharp; termen distinctly oblique, delicately concave postapically; costal fold slender, reaching to middle of costa, followed by extending costal scales. Ground colour pale brownish grey with olive hue, venation, edges of pattern and larger strigulae creamy edged, pattern much darker than ground colour but costal part of median fascia and subapical blotch chestnut brown. Median fascia pale internally, with dark edges, divided into two main parts by oblique lines extending from dark discal spot to dorsum (in some specimens additional parallel line connects end of proximal edge with submedian part of posterior edge of the fascia). Row of spots subterminally. Fringes creamy, olive-grey at apex. Hindwing brownish cream, paler distally; fringes more white except for apex area which is concolorous with wing; median line brownish grey. Female larger and usually darker coloured than the male.

Variation. Basal area with more or less distinct pale edged strigulae or oblique markings, exceptionally with ill-defined basal blotch. Distal third of wing usually mixed grey, strigulate or marked by one or two oblique, pale edged lines. Hindwing in some females brownish grey.

Male genitalia (figs. 48, 49): proximal third of uncus slender, distal portion strongly broadening, club-shaped. Labis elongate, sacculus fairly broad, brachiola small, slender. Aedeagus proportionally small, arched, membranous dorsally to before ductus ejaculatorius, with slender coecum penis.

Female genitalia (fig. 84). Sterigma rather short, gently rounded proximally; ductus bursae long, densely twisted with double cestum. Signum large with strong capitulum and rather small basal sclerite.

Holotype: ♂: „Mex. Nuovo Leon, 4 mi W. Iturbide. IX—13/14—76; J. CHEMSAK & J. POWELL at light”; coll. UCB. Paratypes 9 ♂♂ and 7 ♀♀ identically labelled as the holotype.

Comments. Similar to *cremnobates* but smaller and with less concave costa of the forewing.

### *Clepsis cremnobates* (WALSINGHAM), comb. nov.

*Tortrix cremnobates* WALSINGHAM, 1914, Biol. cent.-am. Lepid. Heterocera, 4: 293, pl. 9, fig. 2. Type-locality: Guatemala. Holotype, ♀ with abdomen missing: „Guatemala, Totonicapam: Totonicapam, 8500—10500 ft., VIII. 1880, CHMPN. GODM. 66566 WLSM.” Coll. BM.

Head and thorax brownish (labial palpus missing). Forewing 12 mm, slightly expanding terminally; costa distinctly curved outwards at base then rather straight, distinctly concave postmedially where tuft of extending scales present; apex rather short; termen oblique, slightly concave postapically. Ground colour brownish grey, greyer in distal part of wing, diffusely spotted brown-grey in basal area. Pattern somewhat darker than ground colour with brown, finely whitish edged borders. Proximal edge of median fascia concave subdorsally; subapical blotch slender, divided into three brown spots, basal blotch represented by some three short lines situated in dorsal area of wing. Black-brown, oblique marking at disc; an oblique line subterminally. Fringes concolorous with ground colour, yellowish orange beyond median line. Hindwing brownish cream suffused grey-brown on peripheries and concolorously strigulated. Fringes cream mixed brownish, with weak median line.

### *Clepsis abscisana* (ZELLER) comb. nov.

*Tortrix (Cacoecia) abscisana* ZELLER, 1877 Trudy russk. ènt. Obshch., 13: 90, fig. 30. Type-locality: Barroblanco, Colombia. Lectotype (here designated), male with abdomen missing: „Cacoecia abscisana Z. Barroblanco”; coll. BM.

Head and thorax creamy-brown. Forewing 7 mm, broad; costa strongly convex basally, distinctly concave beyond middle; apex short; termen somewhat oblique, slightly concave before middle; costal fold slender, reaching to middle

or to beyond middle of costa. Ground colour pale creamy-brown, pattern indistinct, brownish, brown spotted, consisting of costal and dorsal remainders of median fascia and elongate marking situated in middle of costal concavity representing subapical blotch; two small spots at costa basally. Fringes paler and more ochreous brownish than ground colour. Hindwing dirty cream-white, fringes rather concolorous with vestigial median line.

Female: forewing 8—9 mm, rather uniformly broad throughout with costa more distinctly curved outwards basally, provided with larger group of extending scales at the beginning of costal concavity; apex sharp; termen more oblique than in male, gently sinuate. Ground colour grey to brownish grey, more or less dark, often with olive hue. Pattern reduced to yellowish brown, slender subapical blotch and brownish, pale bordered edges of median fascia. Often two arched outwards lines in distal portion of wing. Costa spotted brown, some brownish strigulae in remaining parts of wing occasionally. Fringes concolorous with ground colour to middle and apex, whitish grey otherwise. Hindwing brownish grey to dark grey with slightly paler fringes.

Male genitalia (figs. 50, 51): uncus strong, distinctly broadening in distal half, rounded apically; terminal plate of gnathos long. Valva elongate; brachiola broad; sacculus slender proximally with convex postbasal part of ventral edge and distinct free termination; labis elongate with proportionally small group of spines. Aedeagus membranous dorsally except for the proximal part; coecum penis very long, strongly flattened laterally, distal portion of aedeagus broad, provided with rounded, lateral prominence of the left wall; no cornuti in examined specimens.

Female genitalia (fig. 88) large; sterigma expanding in middle ventrally, provided with variably shaped, distinct proximal prominences; sclerite of antrum fairly large, diffuse, situated subventrally. Ductus bursae long; signum large with rather short sack-shaped portion, large, concave medially basal sclerite and strong, vertically arranged internal plate.

Comments. The description of the male is based on the lectotype, that of the female and its genitalia on the specimens from Costa Rica. The male genitalia of a Colombian specimen were compared with those of the Costa Rica examples.

### *Clepsis gelophodes* (MEYRICK), comb. nov.

*Cacoecia gelophodes* MEYRICK, 1936, Veröff. dt. Kolon. u. Übersee-Mus. Bremen, 1: 329, pl. 13, fig. 22. Type-locality: Timotes, Venezuela.

Male: forewing ca 8 mm similarly shaped and coloured as in preceding species, but the ground colour more ochreous. Pattern pale ochreous-brown spotted dark brown except for dorsal suffusion. Median portion of basal area and costa distinctly spotted, row of small dots on termen. Venation in distal third of wing suffused brown. Fringes concolorous with ground colour, cream from beyond median line, brownish at apex. Hindwing cream, suffused brownish in anal area, brown strigulated apically; fringes dirty cream with weak median

brownish line. Variation: one specimen with grey hue of head, thorax and ground colour examined. Female: forewing 8—9·5 mm, similarly coloured as in preceding species but with forewing fringes pale ochreous-cream beyond median line. Variation slight. Some specimens with slight ochreous-grey hue and variably developed pattern. In one example brown basal blotch dorsally.

Male genitalia (fig. 52) as in preceding species but uncus seemingly shorter, gnathos smaller and lateral prominence of distal part of aedeagus weaker.

Female genitalia (fig. 89) as in preceding species but sclerite of antrum shorter; ductus bursae shorter and with less numerous twists. Signum differently shaped, with long sack like part, slenderer, producing laterally basal sclerite and shorter internal plate not reaching end of basal sclerite.

Comments. The lectotype remains unknown to me; the description of the male is based on the paratype preserved in the British Museum (NH), that of the female on the specimens collected in Rancho Grange (Venezuela) in July, August and October at the altitude of 1100 m.

#### *Clepsis* sp. near *gelophodes*

Male with forewing 6—7·5 mm similar to that in the two preceding species, varying in colour and shape of the pattern. Female more or less similar to that in *gelophodes*.

Male genitalia (figs. 53, 54) as in two preceding species but with broader distal part of aedeagus; length of uncus as in *abscisana*.

Female genitalia (figs. 90) as in *gelophodes*.

Comments. The status of this form is doubtful. Numerous specimens have been collected in Vera Cruz, Mexico in July at the altitudes of ca 1000 m.

#### The group of *staintoni*

Labial palpus ca 4. Costal fold in male absent. Male genitalia similar to those in the species of the group of *peritana* but with distinctly broadened proximal part of valva. Aedeagus with subdorsal process on left wall; dentate parts of labis strong more or less distinctly fused with one another. Female genitalia with proportionally small median cup-shaped part of sterigma, weak median sclerite of antrum and well developed cestum. Signum capitate.

Distribution: Madeira. Bionomics: little known to date; probably 2—3 generations yearly.

Comments. This group is close to the group of *peritana* but probably derivated from the group of *pallidana*.

#### *Clepsis subcostana* (STAINTON)

*Tortrix subcostana* STAINTON, 1859, Ann. Mag. nat. Hist., (3) 3: 211. Type-locality: Madeira. Lectotype (here designated), ♂: "Type, XVI; Madeira 1858, WOLLASTON, [No.] 13541"; G. S. 5761 [BM]; coll. BM.

*Tortrix retiferana* STAINTON, ibid.: 211. Type-locality: Madeira. Lectotype (selected in the BM), ♂: „XVII”, G. S. 5327 [BM]; coll. BM — **synon. nov.**

KENNEL, 1910: 191, tabl. 10, fig. 3, 4 (*subcostana*); p. 192, tabl. 10, fig. 7 (*retiferana*; *Tortrix*); OBRAZTSOV, 1955: 215 (*subcostana* and *retiferana*; *Clepsis*).

Labial palpus brownish, brown terminally, remaining parts of head creamy brown, flagellum of antenna creamy. Forewing 7—10 mm, rather uniformly broad throughout; costa strongly curved outwards to middle, then straight; apex short, acute; termen weakly oblique, somewhat concave postapically. Ground colour in lectotype ochreous cream, mixed brownish in distal portion of wing. Base suffused brown, distal portion of the suffusion sharp edged towards dorsum. Median fascia chestnut-brown, slender in costal half, broad and diffuse in dorsal third where much paler. Subapical blotch weak, diffuse, mixed grey, dark brown spotted costally connecting with median fascia near disc; two costal spots before and two beyond subapical blotch, two or three similar markings in middle subterminally. Fringes concolorous with distal part of wing. Hindwing yellowish cream, mixed grey towards base; brownish grey transverse strigulation mainly in distal third of wing; fringes concolorous with distal area of wing, with brownish grey median line near apex.

Variation. Ground colour varies from yellowish ochreous to pale brownish, pattern is brownish, dark brown or even black-brown or black. Distal third of wing more or less distinctly suffused brownish. Basal blotch often distinct, dark edged posteriorly. Costal portion of median fascia usually well developed, dorsal part sometimes completely diffuse or atrophied similarly as the subapical blotch. Some almost unicolorous specimens seen.

Male genitalia (figs. 55, 56): uncus strong, with broad, delicately concave apically distal portion; socius minute; distal processes od labis broad, spined portions somewhat elongate; prominence of ventral edge of sacculus slightly variable.

Bionomics. Moth collected: VII—X.

Comments. The lectotype of *retiferana* is conspecific with *subcostana*, the remaining specimens in the collection of the BM are most probably identical with *subjunctana*.

### *Clepsis subjunctana* (WOLLASTON), comb. nov.

*Tortrix subjunctana* WOLLASTON, 1858, Ann. Mag. nat. Hist., (3) 1: 120. Type-locality: Ribeira de Janela (Madeira). Lectotype (selected in the BM), ♂: „XV; *Tortrix subjunctana* WOLLASTON, 1858”, G. S. 5319 [BM]; coll. BM.

KENNEL, 1910: 217 (*Tortrix*); OBRAZTSOV, 1955: 221 (*Lozotaenia*).

Head brown-creamy; thorax somewhat darker, suffused brownish. Forewing 10 mm, hardly expanding terminally; costa curved outwards in basal third, then weakly so; termen more strongly concave postapically than in preceding species. Ground colour dirty cream, delicately suffused brownish, densely strigulated ochreous brown. Pattern ill-defined: basal blotch preserved in form of small

median part of posterior edge and a spot at costa; median fascia consists of larger costal and smaller dorsal blotch; subapical blotch absent. Some spots along costa and one in middle of subterminal area. Fringes concolorous with ground colour. Hindwing grey-creamy, densely strigulated grey; fringes concolorous with wing.

Male genitalia (figs. 57, 58) as in preceding species but uncus slenderer, slightly broadening terminally, rounded apically; head of labis smaller, more convex dorsally, with ill-defined distal part.

### *Clepsis staintoni* OBRAZTSOV

*Tortrix reticulata* STAINTON, 1859, Ann. Mag. nat. Hist., (3) 3: 211. Type-locality: Madeira Lectotype (selected in BM), ♀: „XIV”, G. S. 5328 [BM]; coll. BM. Nom. praeocc.

? *Clepsis staintoni* OBRAZTSOV, 1955, Tijdschr. Ent., 98 (3): 219 (nom. nov.).

KENNELL, 1910: 192 (*reticulana* [sic!]), tabl. 8, fig. 32 (*Tortrix*).

Labial palpus ferruginous brown paler dorsally; remaining parts of head and scape of antenna concolorous with upper side of palpi, flagellum more creamy. Thorax dark ferruginous brown. Forewing 15 mm, distinctly expanding terminally; costa curved outwards throughout, mainly at base; apex short; termen fairly oblique, concave postapically. Ground colour brownish yellow suffused brownish especially along dorsum and in terminal area of wing except for its tornal portion. Pattern brown; dark brown spots along costa, in subterminal area, along termen and partially on pattern; larger spot near disc. Basal blotch strongly convex before middle distally; proximal edge of median fascia concave beyond middle, distal edge rather diffuse, fused with ill-defined subapical blotch. Fringes paler, more creamy than ground colour. Hindwing creamy, spotted grey-brown; fringes paler than wing.

Variation concerns the ground colour which is more or less obscure and the shape and hue of the pattern.

Male genitalia (figs. 59): uncus rather slender with large, elongate-ovate distal, broadened part. Head of labis large, provided with strong denticles.

Female genitalia (fig. 92). Papilla analis slender; sterigma broad with large, membranous surrounding of ostium bursae and produced median portion of distal edge. Sclerite of antrum rather delicate; ductus bursae long; cestum strongly broadening in corpus bursae; signum large.

### APPENDIX

Of the three species discussed below *zelleriana* was already redescribed in the part one of the revision of this genus (p. 123). The present data concern the holotype and the male genitalia unknown to date. The second species, *provocata*, is realised to be a member of *Clepsis*. The systematic position of the third species described as new is uncertain.

*Clepsis zelleriana* (ERSCHOFF)

The holotype, ♂ preserved in the coll. of ZMM is labelled as follows: „Turkest'an, FEDCHENKO; Kokan Haust. Ledn. Shtchurovskogo i b. Dshuntyka, h = 10 700'—12 300', 24. VI. 1871, A. P. FEDCHENKO", G. S. 10339.

Male genitalia (figs. 60, 61). Uncus very broad, slightly concave apically; socius moderate; gnathos simple with broad terminal plate. Valva in comparison with tegumen small, elongate-ovate; sacculus slender, convex before middle ventrally, with delicate distal plate; labis slender, long, with a few minute denticles. Aedeagus slender, tapering in distal third, cornutus thin; coecum penis small.

*Clepsis provocata* (MEYRICK), comb. nov.

*Catamacta provocata* MEYRICK, 1912, Exot. Microlep., 1: 1. Type-locality: Khasis, Assam. Holotype, ♀ (abdomen missing): „Khasi Hills, Assam, IV. 1906"; coll. BM.

Labial palpus 1·5, pale ochreous cream with scattered brown scales; head and thorax brownish cream. Forewing 11 mm, indistinctly expanding terminally; costa curved outwards in basal third, weakly concave subapically; apex somewhat elongate; termen oblique, delicately sinuate postapically. Ground colour pale cream slightly suffused brown towards base and termen, distinctly strigulated brownish. In distal part of wing the strigulae form oblique lines. Pattern brown with slight olive-grey hue consisting of slender, broadening dorsally median fascia the proximal edge of which extends from 1/3 of costa to 2/3 of dorsum and subapical blotch with anterior edge parallel to the former. Fringes concolorous with ground colour, brownish distally from apex to middle of termen, with indistinct median line. Hindwing creamy, paler basally, suffused brownish grey on peripheries, reticulate brownish in distal third. Fringes darker than wing, brownish grey terminally to vein  $cu_2$  with brownish median line. Male smaller than female, with forewing (8—10 mm) more expanding terminally. Costal fold brownish, creamy distally, reaching to middle of costa.

Variation. Ground colour cream to whitish cream, dorsum suffused brownish or brown-grey, reticulation concolorous, distinct mainly in terminal part of wing. Basal blotch in form of weak suffusion or completely reduced. Median fascia brownish (various shades) strongly broadening dorsally, showing a tendency to atrophy in subcostal portion, with variably shaped, often pale edged proximal edge. A curved line extending from proximal corner of subapical blotch to tornus.

Male genitalia (figs. 62, 63): uncus gradually tapering terminally in distal portion; terminal plate of gnathos long. Valva long; sacculus concave submedially, with long distal plate; labis thin, bent. Aedeagus slender, tapering terminally; 4 thin cornuti in vesica.

Female genitalia (fig. 93): sterigma with large cup-shaped part tapering

towards antrum; cestum reaching to beyond middle of ductus bursae; signum small, funnel-shaped, without basal sclerites and capitulum.

Bionomics. Moth collected in February and April in India and in first days of August in Taiwan at the altitude of 2300 m.

Distrubution. Known from Assam (Khasi Hills) and Taiwan (Alishan: Chiasi-Hsien and Suisharyo).

Comments. This species resembles *rurinana* and *mellissa* differing from them in the shape of the forewing and genitalia.

### *Clepsis eura* spec. nov.

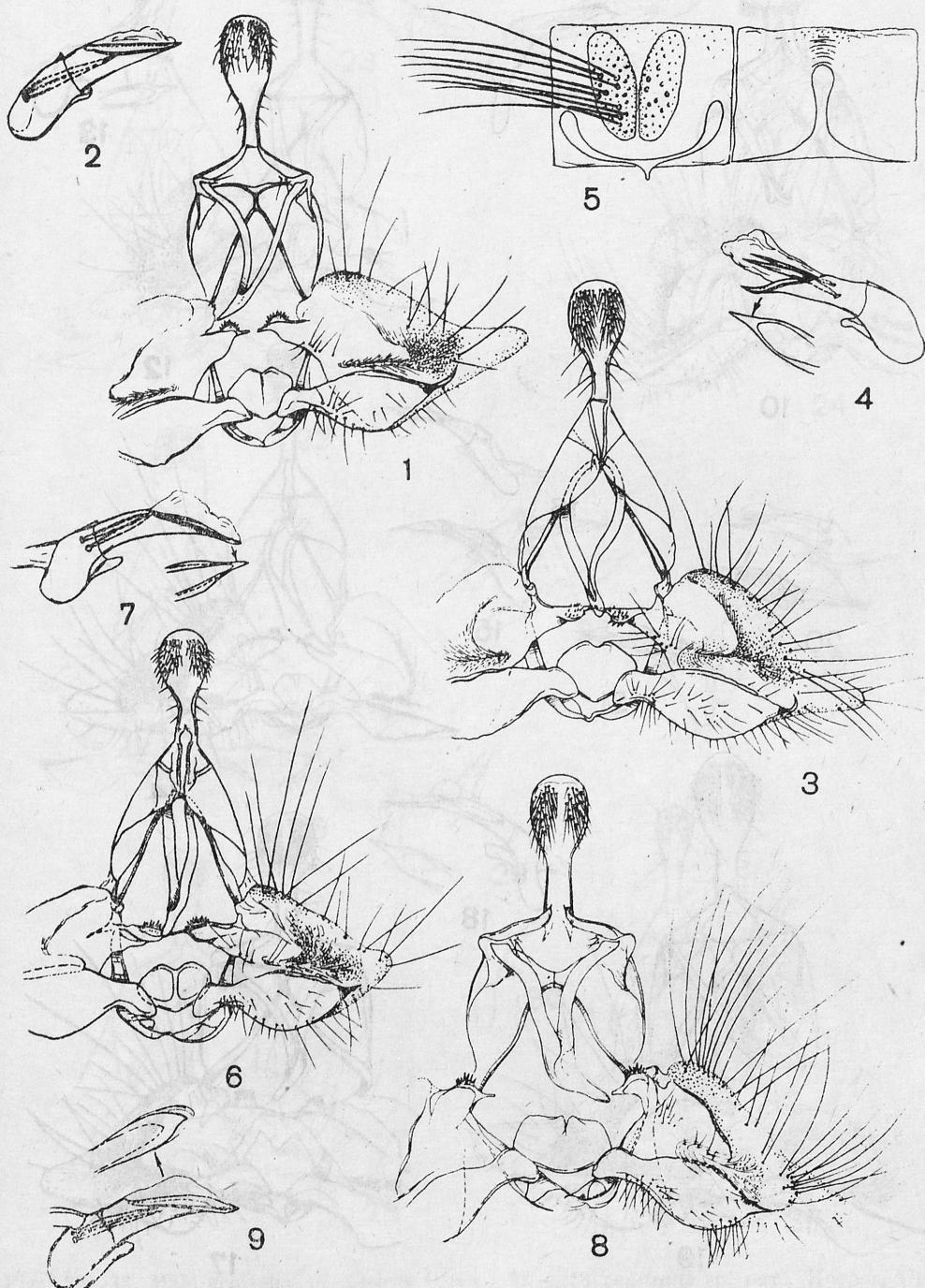
Labial palpus 2·5, cream ochreous, remaining parts of head dirty cream, flagellum of antenna brownish, thorax grey. Forewing 8·5 mm, rather uniformly broad throughout, without costal fold (indistinctly upturned, very slender part of costa only). Costa curved outwards at base, then almost straight; termen oblique straight. Ground colour dirty cream, indistinctly strigulated ochreous cream, with several black-brown dots scattered in distal third of wing. Fringes pale cream. Hindwing pale brownish cream with paler fringes.

Male genitalia (figs. 64, 65): uncus rather short, broad, strongly expanding in terminal half; gnathos simple. Valva short, subovate with indistinct, external brachiola; sacculus very large, strongly broadening in distal half, with proximal edge convexely rounded postmedially; anterior edge of the convexity provided with weak, dentate rib. Labis somewhat elongate, spinulate dorsally. Aedeagus long, slender, tapering in distal third, slightly curving to the right apically; cornuti: two broad spines.

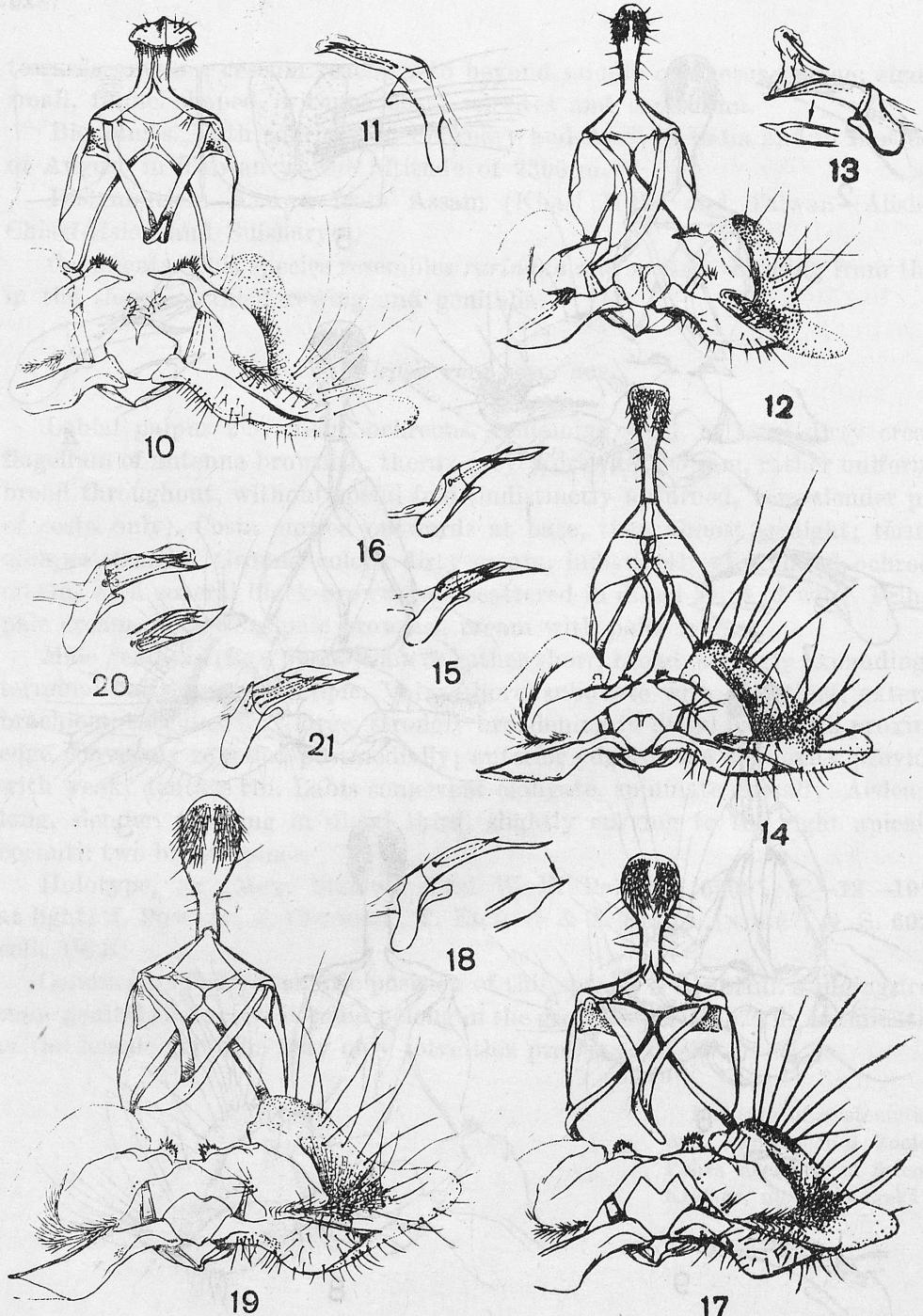
Holotype, ♂: "Mex: Sinaloa, 8 mi W El Palmito, 6000', X—12—1975, at light; J. POWELL, J. CHEMSAK, T. EICHLIN & T. FRIEDLANDER"; G. S. 6029; coll. UCB.

Comments. The systematic position of this species is doubtful. Judging from some genital characters it could belong in the group of *peritana*. The examination of the female genitalia may only solve this problem.

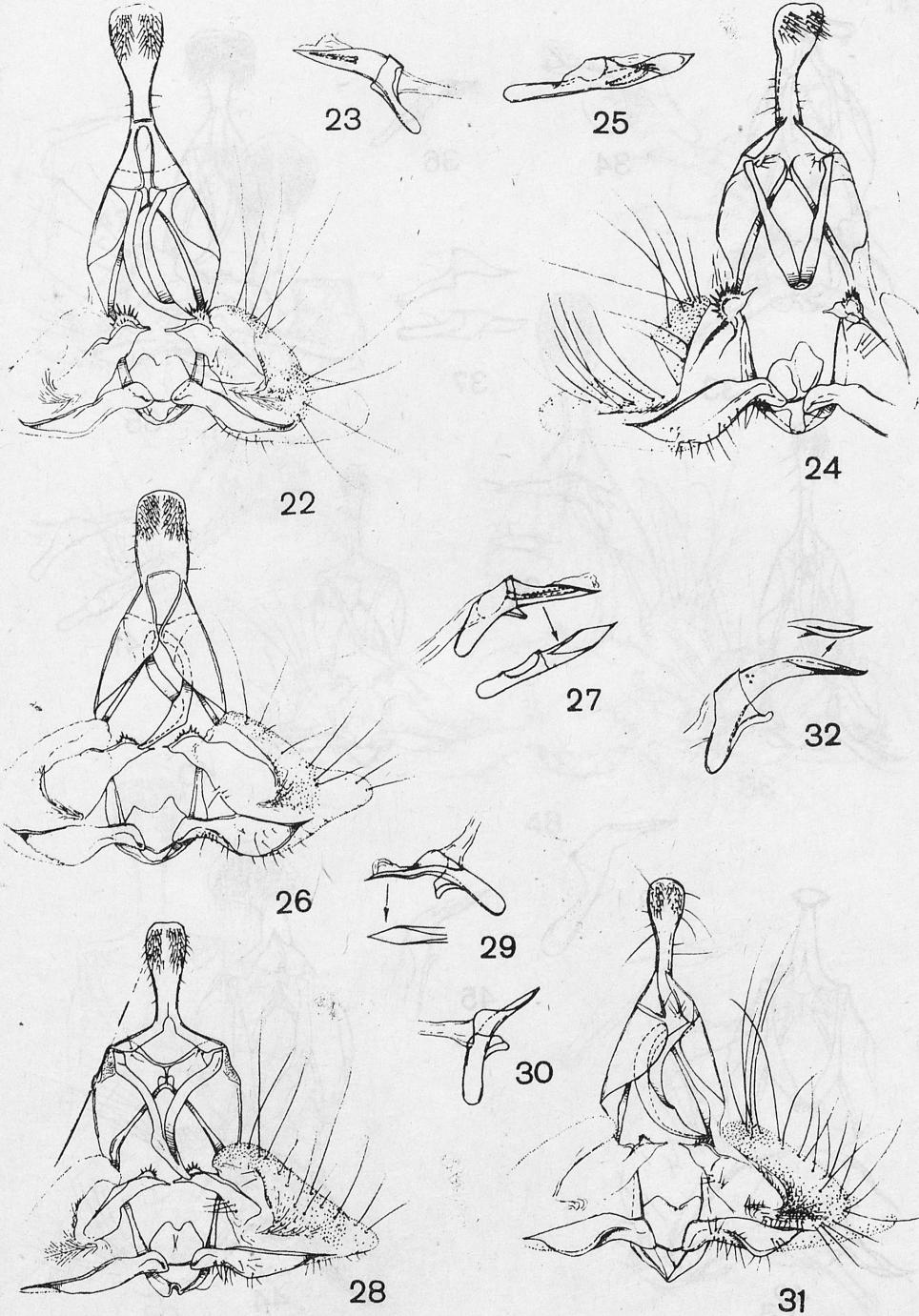
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and Experimental Zoology  
Polish Academy of Sciences  
Kraków, ul. Śląskowska 17



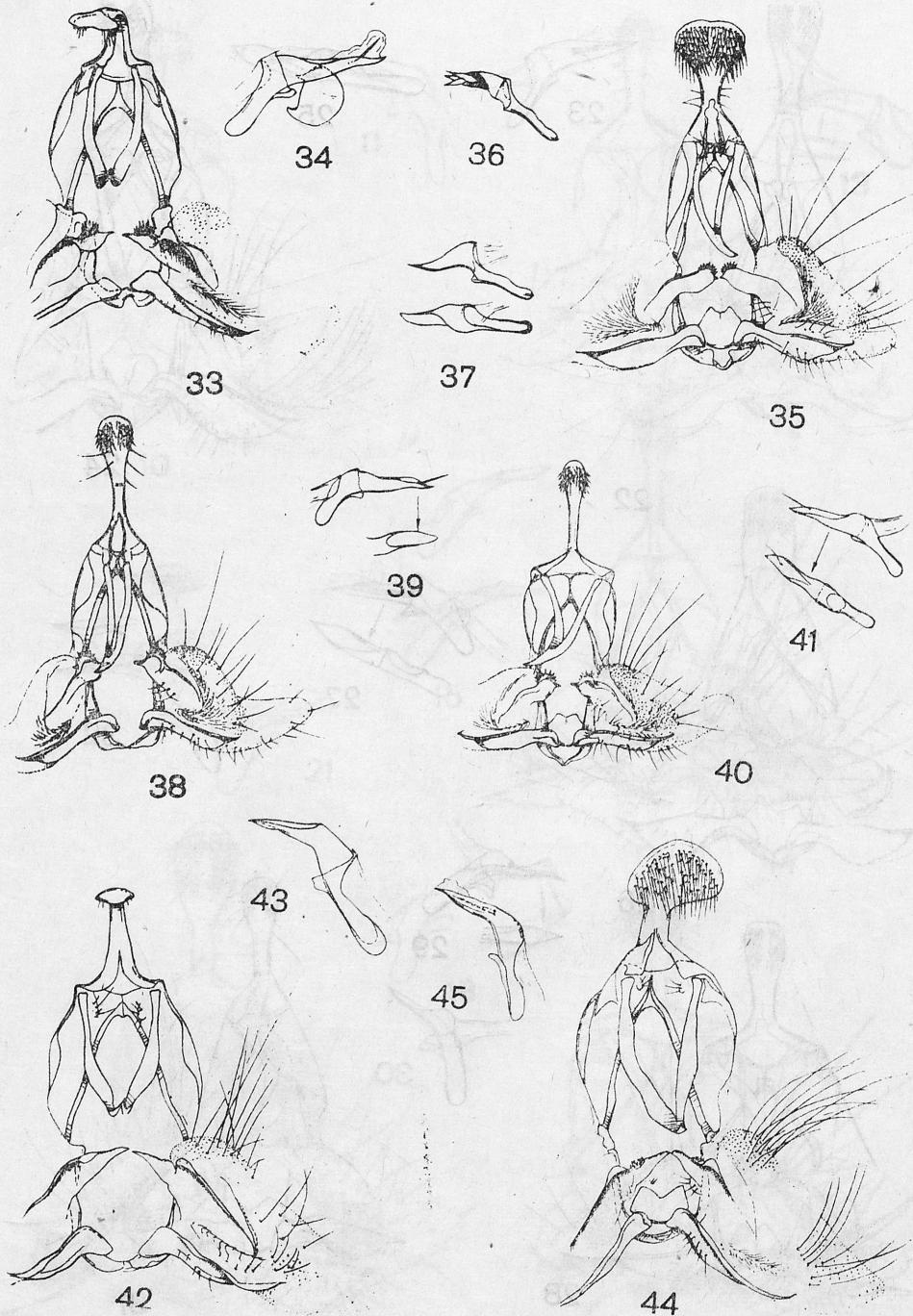
Figs. 1—9. Male genitalia of *Clepsis* GUEN.: 1 — *C. virescana virescana* (CLEM.), Contra Costa Co., California, G. S. 12729, 2 — aedeagus of same species, 3 — *C. virescana salebrosa* ssp. nov., paratype, G. S. 12755, 4 — aedeagus of same specimen, 5 — subgenital segment of same specimen, 6 — *C. rasilis* sp. nov., paratype, G. S. 12754, Las Russias, 7 — aedeagus of same specimen, 8 — *C. enervis* sp. nov., holotype, 9 — aedeagus of same specimen



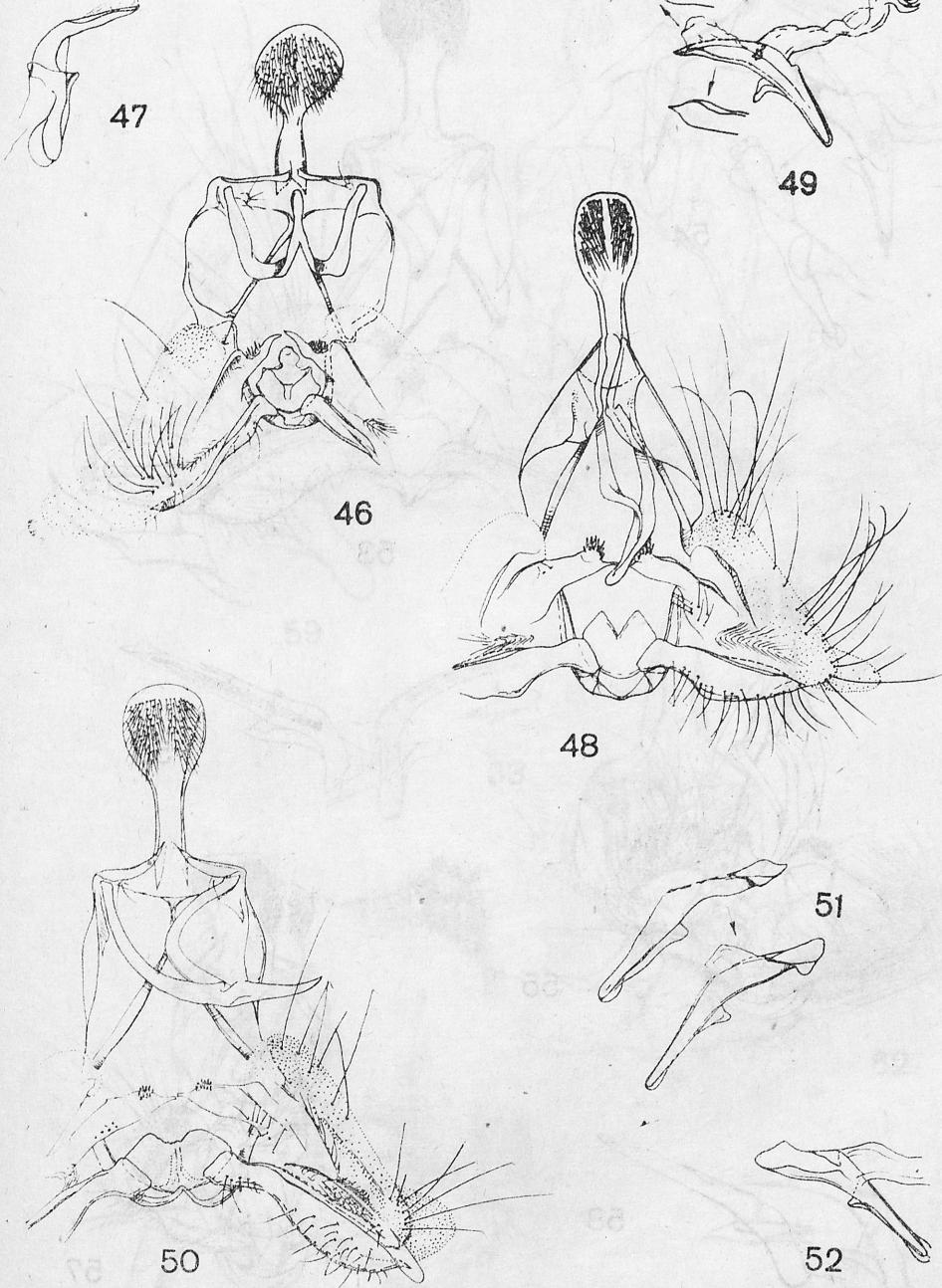
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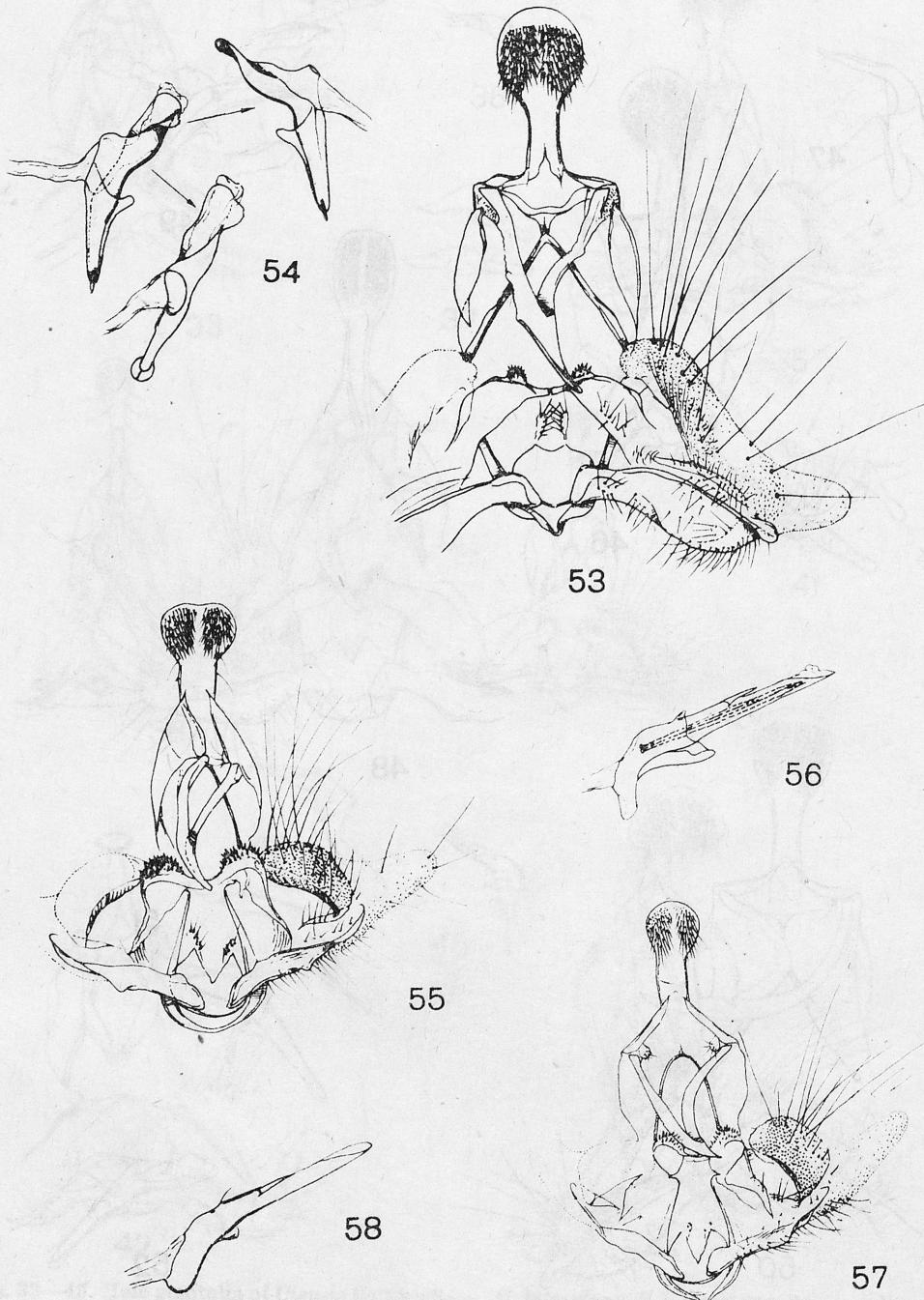
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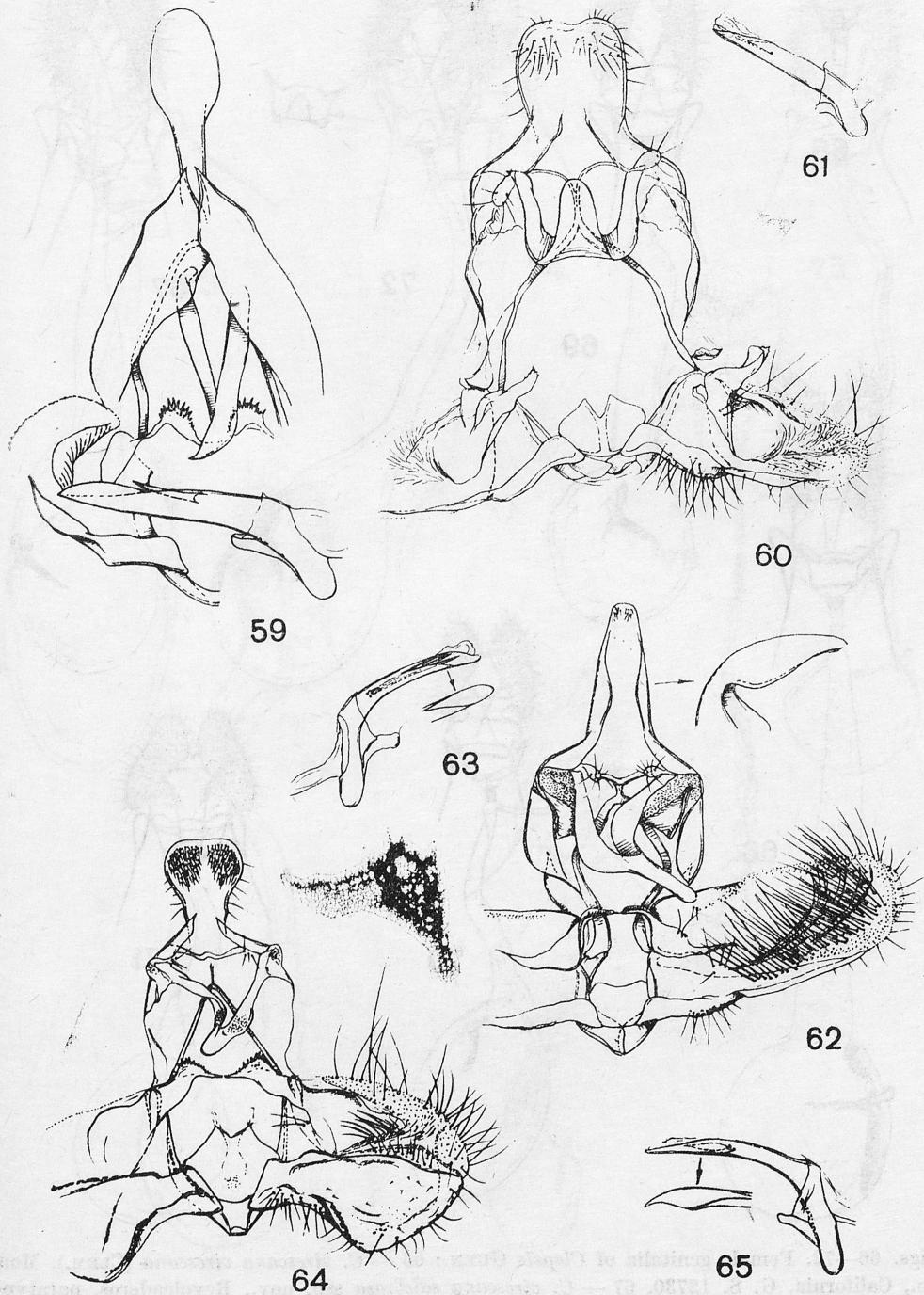
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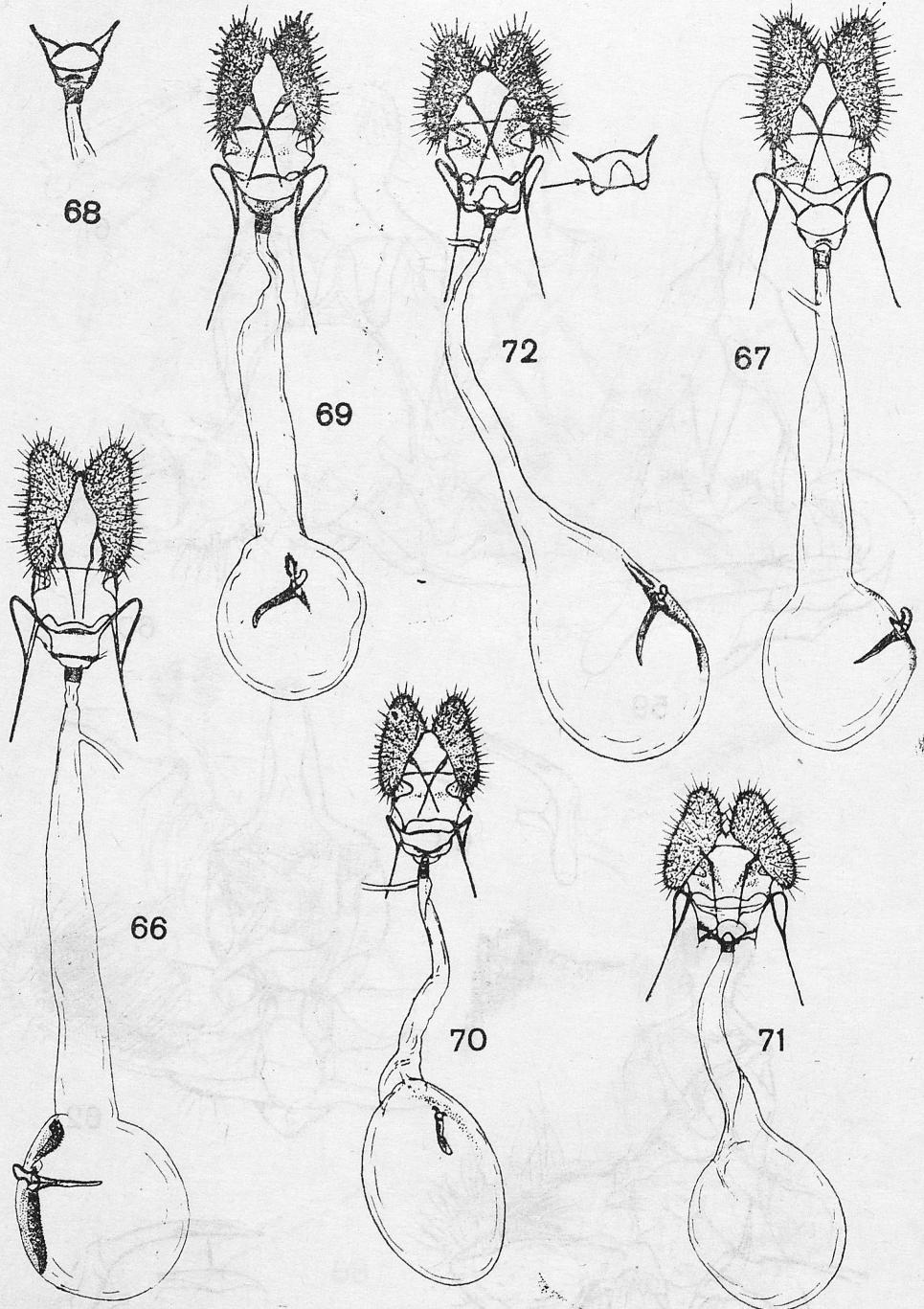
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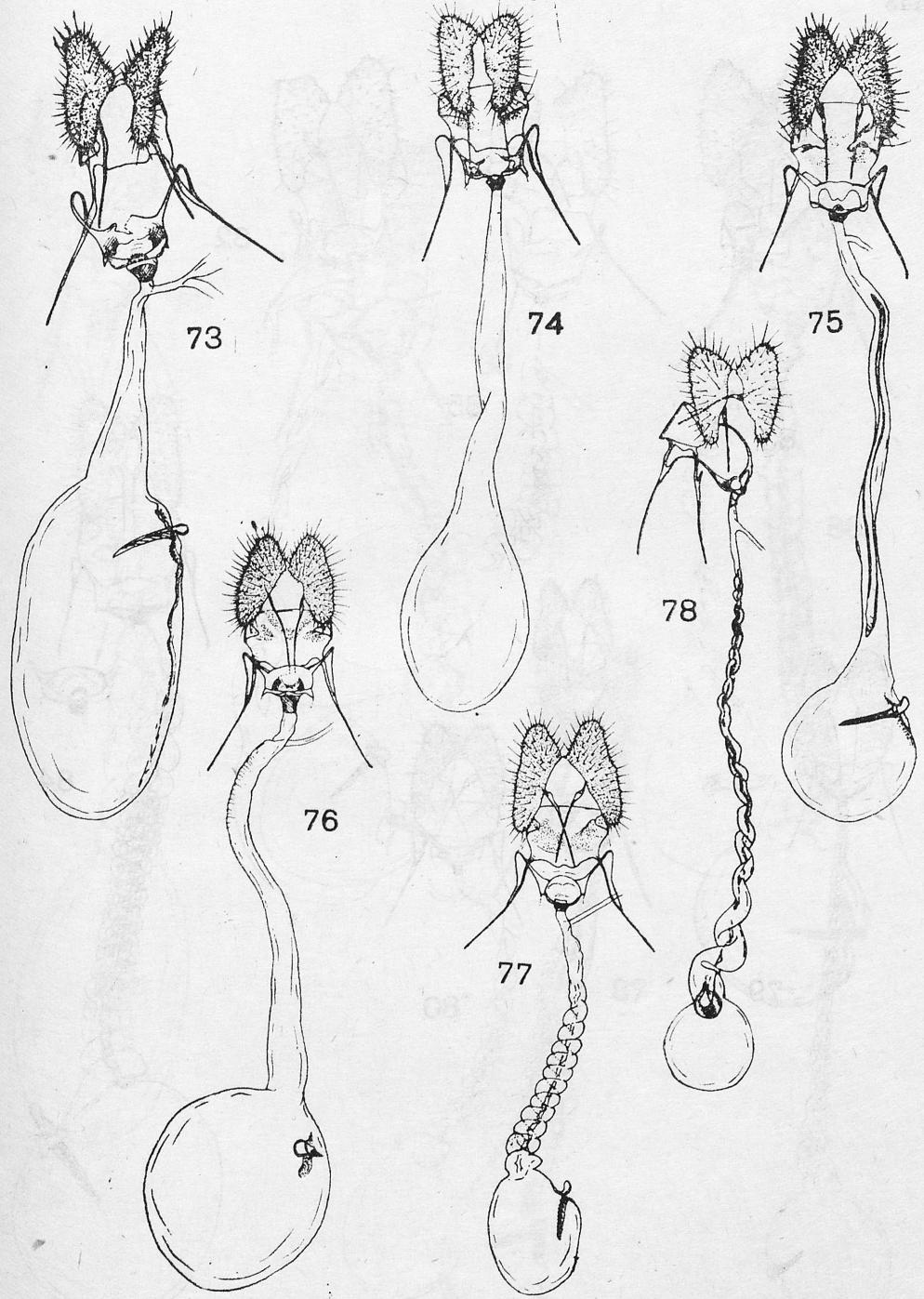
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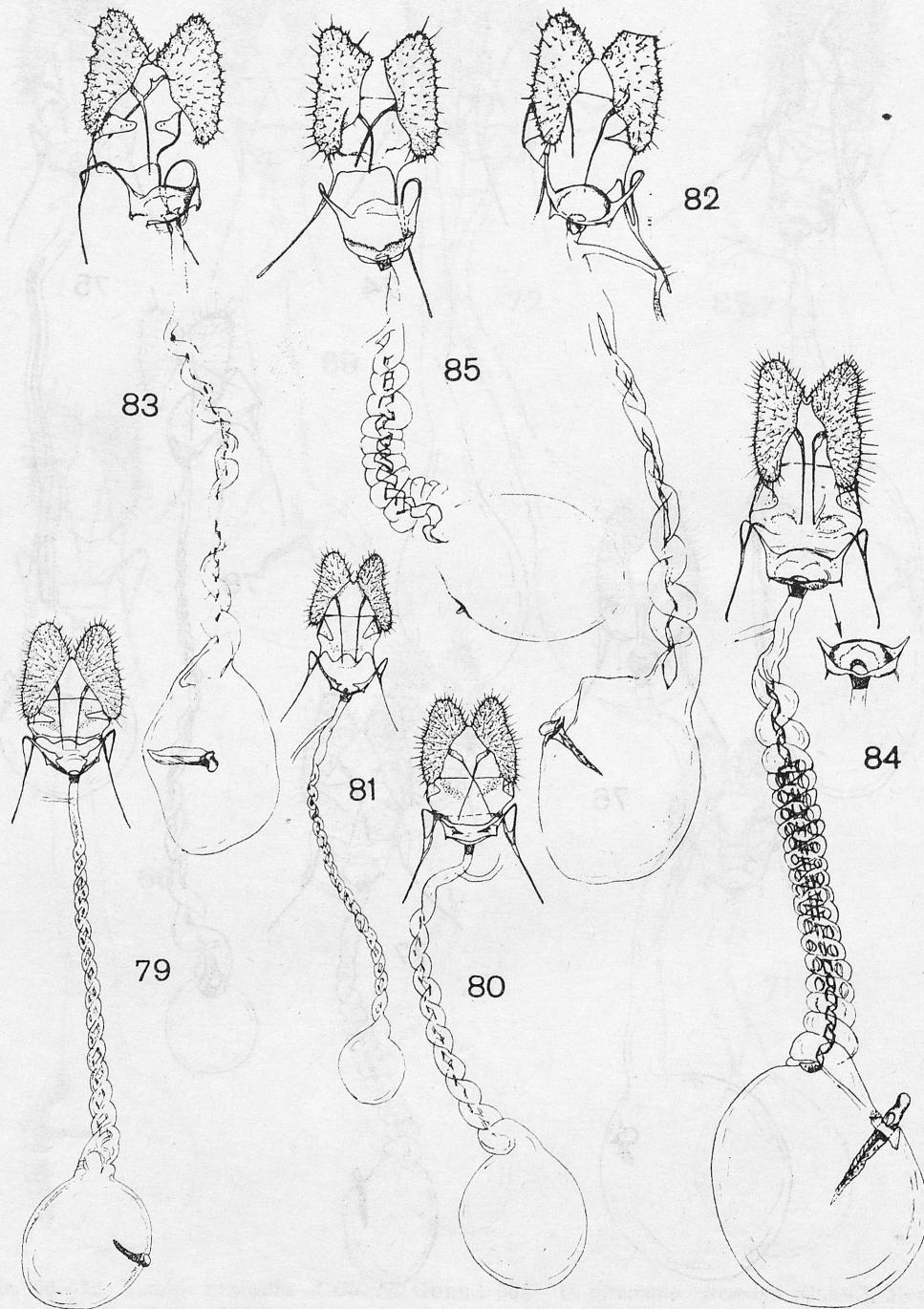
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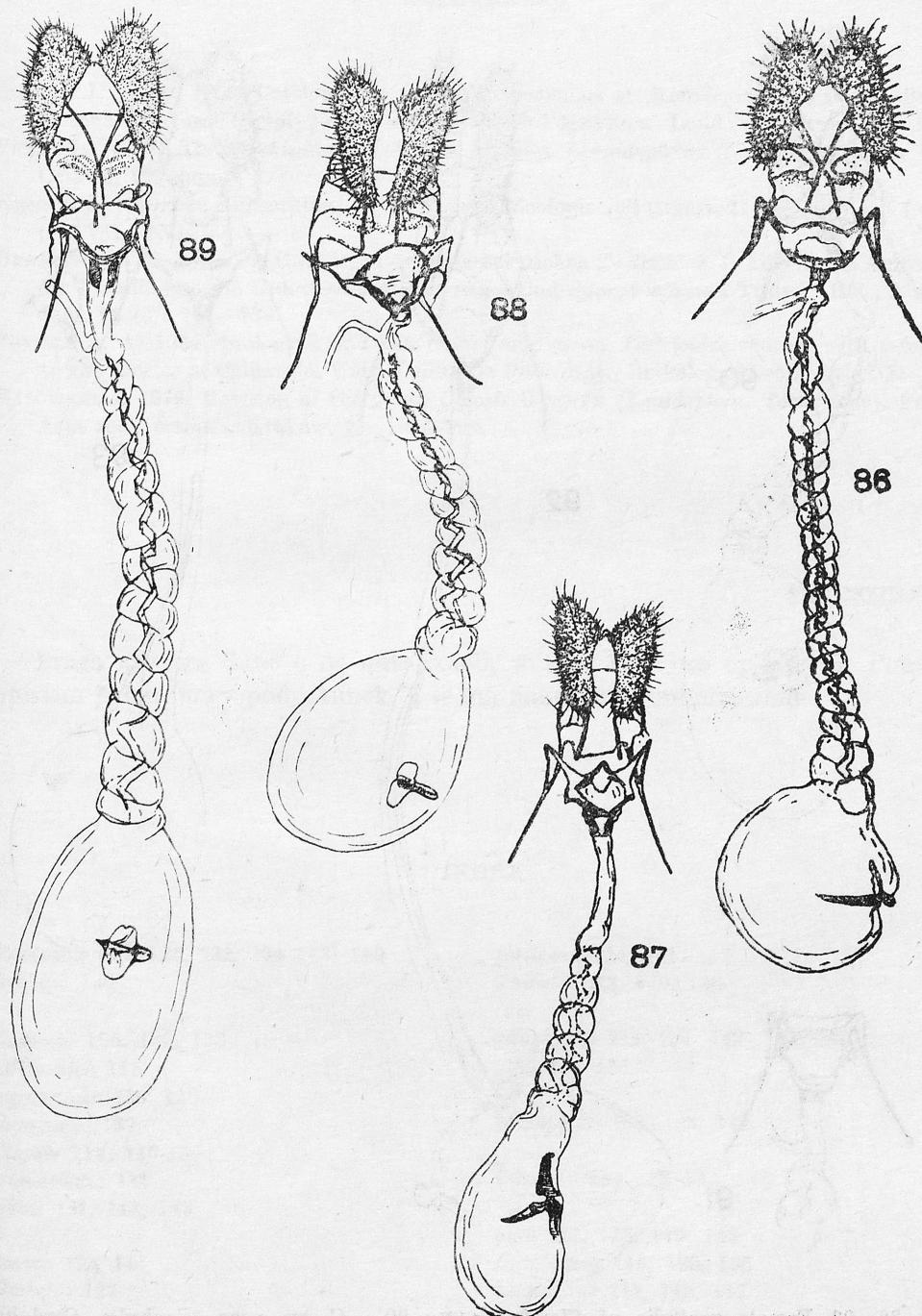
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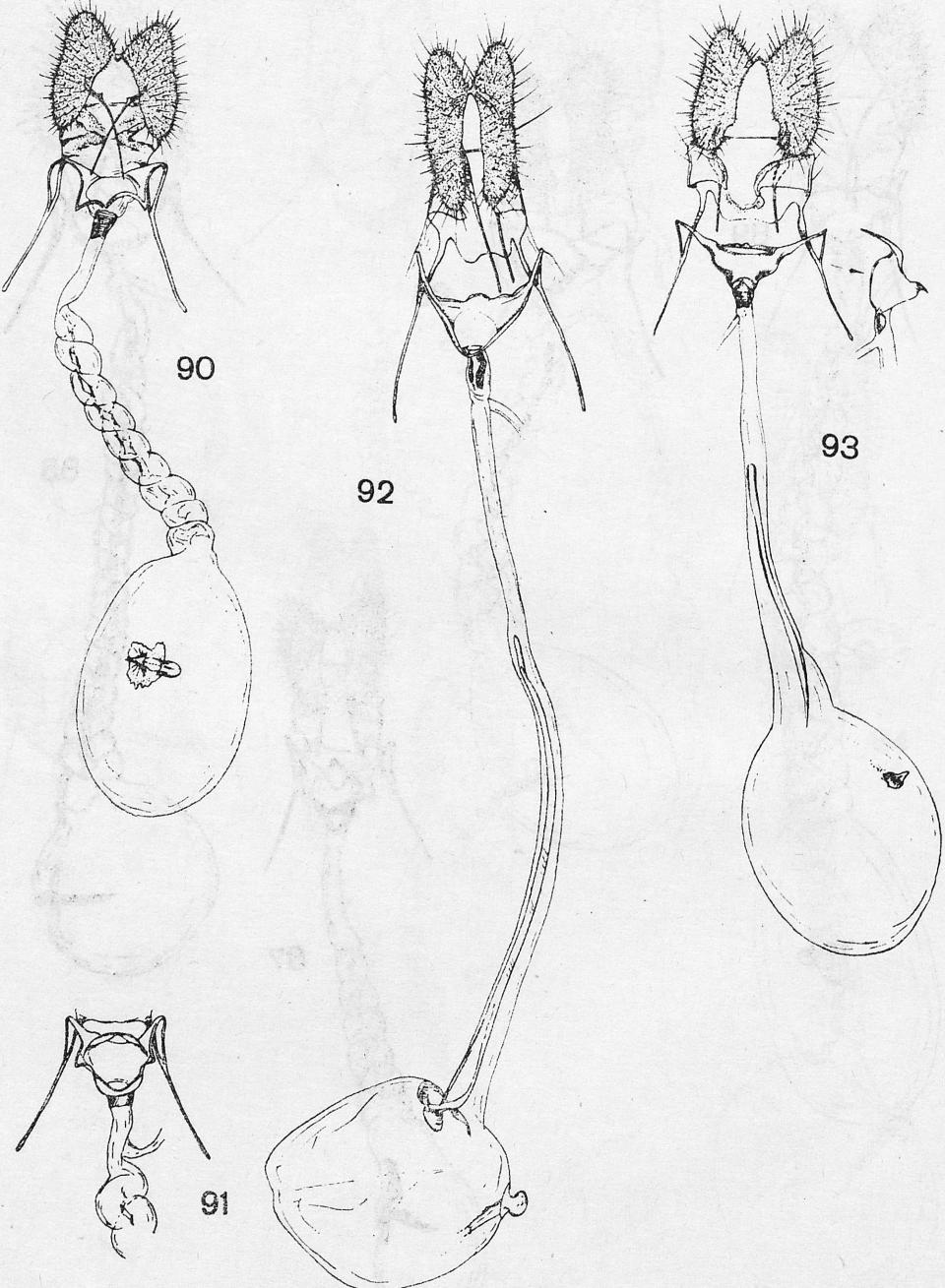
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## STRESZCZENIE

Praca zawiera dane o 34 gatunkach, w tym 12 nowo opisanych. Ponadto opisano jeden nowy podgatunek, a jedną nazwę zsynonimizowano.

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